

US EPA RECORDS CENTER REGION 5



466393

Monthly Oversight Report 45
ACS NPL Site
Griffith, Indiana
August 28, 2004 - September 24, 2004



BLACK & VEATCH

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Black & Veatch Special Projects Corp.

USEPA/RAC VII
American Chemical Services RAO (057-ROBF-05J7)

BVSPC Project 46526
BVSPC File C.3
October 11, 2004

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report
No. 45 for September 2004

Dear Mr. Adler:

Enclosed is the Monthly Oversight Summary Report No. 45 for September 2004 for the American Chemical Services Superfund Site in Griffith, Indiana.

If you have any questions, please call (312-683-7856) or email (campbelllm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.

Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 45
ACS Superfund Site WA57, 46526.238

Reporting Period: Month of September (August 28, 2004 - September 24, 2004).

BVSPC O/S Dates: August 30 and September 2, 7, 8, 9, 13, 16, 21, and 23, 2004.

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	6	Respondent's General Contractor
Karaganis White & Mangel, Ltd.	1	Respondent's Attorney
Environ	1	Respondent's Technical Advisor
American Chemical Services, Inc.	1	ACS Plant Manager
U.S. Environmental Protection Agency	1	Federal Regulatory Agency
Indiana Department of Environmental Management	1	State Regulatory Agency
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Boart Longyear	1	Soil Gas Geoprobe Contractor
PSA Environmental	2	Chemical Oxidation Geoprobe Contractor
ISOTEC	4	Chemical Oxidation Injection Contractor
Walsh & Kelly	4	SBPA Asphalt Paving Contractor
Wilder	2	Asphalt Paving Inspection Contractor
Abatech, Inc.	1	Asphalt Paving QC Contractor
Trugreen/Chemlawn	1	Herbicide Application Contractor
U.S. Floor	3	Epoxy Coating Contractor
Austgen	2	General Contractor
Ryan Construction	2	Mechanical Contractor
Central Crane	1	Crane Contractor
Area Survey	2	Surveyor

Personnel Summary Affiliation	No. of Personnel	Responsibility
Independent Environmental Services	2	General Contractor
First Choice	1	Hazardous Waste Transporter
Torrenga	1	Hazardous Waste Transporter
Microbac (formerly Simalabs)	1	GWTP Sampling Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued to operate the groundwater treatment plant and the in-situ soil vapor extraction systems.
- Montgomery Watson Harza and Boart Longyear collected soil gas samples in the smear zone plume west of the house at 1002 Reder Road.
- ISOTEC and PSA Environmental conducted the first phase of the chemical oxidation injections of modified Fenton's reagent in the South Area smear zone plume.
- Walsh & Kelly constructed an asphalt concrete test pad at the Griffith Airport and placed the final asphalt concrete cover in the Still Bottoms Pond Area.
- Area Survey conducted an as-built survey of the Still Bottoms Pond Area final cover.
- Montgomery Watson Harza, Ryan, and Central Crane installed a new knockout tank and new heat exchanger for thermal oxidizer unit 1.
- U.S. Floor applied an epoxy coating to the sulfuric acid secondary containment floor and walls in the groundwater treatment plant.
- Montgomery Watson Harza installed a new poly tank and transferred 900 gallons of diluted spilled sulfuric acid into the new poly tank.
- Montgomery Watson Harza disposed of remaining diluted spilled sulfuric acid offsite and removed temporary acid storage tanks.
- Ryan and Austgen made piping modifications and electrical/control connections between the new auxiliary and the existing Off-Site Containment Area blower systems.
- Ryan installed the new knockout tank and new heat exchanger for thermal oxidizer unit 1.
- Austgen completed placing filter fabric and wood chips on the access pathways to monitoring wells in the wetlands.
- Montgomery Watson Harza conducted the third-quarter semiannual groundwater monitoring well sampling.
- Microbac (formerly Simalabs) collected samples from the groundwater treatment plant for routine process monitoring.
- Montgomery Watson Harza held the weekly construction coordination meeting at the site on September 2, 9, 16, and 23, 2004.

- Black & Veatch Special Projects Corp. conducted a pre-Pre-Final Inspection of the remedial action construction elements on September 2, 2004.
- Environmental Protection Agency conducted the Pre-Final Inspection of the remedial action construction elements on September 23, 2004.

Activities Performed:

Montgomery Watson Harza (MWH) continued to operate the groundwater treatment plant (GWTP) during the reporting period at 20 to 25 gpm. The reduced rates resulted from deactivation of the dual-phase extraction wells in the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) because of the asphalt paving operations in the SBPA. The GWTP was shut down for isolated periods for routine maintenance, power interruptions, shut-down of the Global thermal oxidizer unit 2 (thermox 2), and crane lifts of the new knockout tank and thermox 1 heat exchanger. Because of problems with the pump controllers, groundwater is not currently being pumped and treated from extraction wells MW10C and MW56. Pump controllers have been removed for inspection and repair/replacement. Microbac (formerly Simalabs) collected samples from the GWTP for routine process monitoring.

MWH temporarily stored the leaked diluted sulfuric acid in a group of poly tanks within secondary containments in the GWTP. U.S. Floor applied an epoxy coating to the floor and walls of the acid secondary containment on September 2. On September 7, MWH manually placed the new 900 gallon poly tank into the acid secondary containment area. On September 13, MWH transferred 900 gallons of the leaked diluted sulfuric acid into the new poly tank and began pumping sulfuric acid to the GWTP system from the new acid storage tank. On September 20, Torrenga transported the remainder of the diluted acid offsite for recycle/reuse. MWH had the vendor remove the temporary storage tanks and their secondary containments on September 21.

MWH continued to operate the ONCA SBPA and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermox 2. The OFCA ISVE system operated with the same 14 SVE wells that have been used for the last few months. The ONCA SBPA ISVE system operated with 12 SVE wells, but MWH is operating with a different group of 12 wells that may produce more vapors than the previous group. The OFCA ISVE system was offline for substantial periods during the reporting period while Ryan and Austgen, respectively, made piping and electrical/control connections for the new OFCA ISVE system auxiliary blower. Power to the ONCA SBPA ISVE system was de-energized for substantial periods while Walsh & Kelly (W&K) graded the SBPA interim cover and placed the final asphalt concrete (AC) cover.

Thermox 2 was shut down for maintenance, crane lifts of the new knockout tank and thermox 1 heat exchanger, and manual removal/cleaning of the packing material from the thermox 2 scrubber. Thermox 2 shut down when it was restarted following acid washing of the scrubber packing material. MWH is investigating this problem. Early in September, when thermox 2 was not operating, MWH restarted the catalytic oxidizer to process GWTP tank and ISVE system vapors.

MWH successfully pumped air through the replaced air sparge point AS5 in the ONCA SBPA using an air compressor. Future testing will be conducted using the ONCA SBPA air sparge blower. However,

attempts to pull vapors from the replaced ISVE well SVE59 were not successful even at a vacuum of 50 inches of water. MWH is continuing to evaluate the efficiency of the ONCA SBPA ISVE system; these test results will be included in a technical memorandum, currently in preparation.

On September 9, Ryan formed and poured a reinforced concrete pad between the thermox 1 heat exchanger and the chemical oxidization unit at the location of a new stainless steel knockout tank to be installed for collection of liquids condensing in the ISVE vapor conveyance piping. On September 13, Ryan used a crane to lift and place the knockout tank on this pad and subsequently connected the vapor piping to the tank.

A new heat exchanger, manufactured by Global, to replace the heat exchanger on the Durr-manufactured thermox 1, was delivered to the site on September 8. It was off-loaded from the delivery truck using a fork lift. Ryan used a crane to install the new heat exchanger in thermox 1 on September 14. However, because of a manufacturing error, various vapor connections did not mate with the existing components on thermox 1. Global manufactured new spacers to fill the 3-inch-wide gaps on these vapor flumes. The spacers were installed on September 17, and the remaining connections were completed. Restart of thermox 1 is expected early in the next reporting period.

W&K completed final grading and compacting of the gravel in the ONCA SBPA interim cover. W&K placed an AC (MatCon) test pad at the Griffith Airport on September 7. Wilder (MatCon) construction managers were onsite and provided technical direction to W&K regarding the mixing and placement of the MatCon AC. Also, Dr. Geoffrey Rowe of Abatech, Inc., the independent quality control engineer, observed all aspects of the test pad construction and subsequent density testing.

Following approval of the test pad construction and testing results by Dr. Rowe, W&K began placing the final AC cover on the ONCA SBPA on September 8. Placement of the final AC cover was completed mid-afternoon on September 10, and W&K demobilized from the site. Prior to placing the final AC cover, MWH retained Trugreen/Chemlawn to spray a herbicide on the interim gravel cover in an effort to minimize the potential for any plant material rooted in the gravel from growing and potentially damaging the integrity of the final AC cover.

W&K made five density measurements at each of five locations in each 2,000-square-foot panel of AC cover using a density meter that had been calibrated based on results of the test pad density testing. W&K obtained two cores of the final AC cover on September 15 for laboratory density and permeability testing. The cores were obtained in the southeast quadrant of the SBPA final cover, spaced about 3 feet apart, and the core holes were backfilled with liquid asphalt. On September 17, Area Survey conducted a topographic survey of the SBPA final cover to gather data needed for quantity determinations and to prepare as-built drawings.

Independent Environmental Services (IES) filled the bases of new fence stanchions with sand and placed the stanchions around the ISVE wells in the SBPA. MWH plans to make additional changes to the SBPA final cover, including placing asphalt to dress up the edges of the cover, installing asphalt curbs to control and direct surface water flow to storm drains, complete the fencing around the ISVE wells, and paint stripes to delineate the roadway area (for heavy trucks) across the SBPA final cover.

MWH and Boart Longyear (BL) conducted soil gas sampling at two locations west of the house at 1002 Reder Road on Monday August 30. Soil gas samples were collected in summa canisters from depths of 6-8 feet and 14-16 feet below ground surface at probe locations about 5 feet and 20 feet west of the house. In addition, background and duplicate samples were also collected. BL demobilized on August 30 after completion of the soil gas sampling.

ISOTEC and PSA Environmental mobilized to the site on August 30 to begin chemical oxidation injections in the South Area smear zone plume near the intersection of Reder Road and Colfax Avenue. MWH conducted the H&S briefing, and ISOTEC set up its mixing tanks and pumps in the yard of the residence at 1002 Reder Road. ISOTEC used three pumps and mixing tanks to inject the modified Fenton's reagent into three points simultaneously. ISOTEC relocated its equipment to the OFCA to conduct the injections on the west side of Colfax Avenue. ISOTEC and PSA completed 371 (of an originally scheduled 380) injection points by the end of the reporting period. They expect to complete the chemical oxidation injections early in the next reporting period.

MWH reported that it had met with both the owner and the renter of the residence at 1002 Reder Road to coordinate the chemical oxidation injection activities on the property. MWH offered to temporarily house the occupants in a hotel or to pay a month's rent as compensation for the inconvenience to the residents. The residents accepted the latter offer.

MWH reported that Ryan had completed connecting the vapor piping to connect the new OFCA ISVE system auxiliary blower. MWH reported that Austgen had completed about 95% of the electrical and control wiring and was awaiting arrival of a control panel and motor starters. MWH expects that all equipment will be installed and that "shakedown" testing of the auxiliary blower system will be started early in the next reporting period.

Austgen placed filter fabric and wood chips on all access pathways to monitoring wells in the wetlands.

MWH started maintenance and repair of monitoring wells on September 16. Some monitoring wells were redeveloped and locks and risers were repaired. MWH began the third-quarter semiannual groundwater sampling during the period September 20-24. The remaining monitoring wells and the annual residential groundwater well sampling will be completed early in the next reporting period.

MWH held four construction coordination meetings at the site on September 2, 9, 16, and 23, 2004.

Black & Veatch Special Projects Corp. (BVSPC) conducted a pre-Pre-Final inspection of the remedial action construction elements with MWH and Indiana Department of Environmental Management (IDEM) following the construction coordination meeting on September 2. This inspection consisted of reviewing the elements of the final remedy as identified in the Consent Decree, the Final Remedial Design Report, and the Record of Decision Amendment. BVSPC discussed the EPA guidance for Pre-Final and Final Inspections regarding construction completion events and documentation. BVSPC specifically reviewed the items listed in Appendix G of the Consent Decree that involved construction (see BVSPC Weekly Oversight Report No. 183 for details).

On September 23, 2004, following the construction coordination meeting, the EPA work assignment manager conducted a Pre-Final Inspection of the remedial action elements of this project.

Attached are BVSPC weekly reports No. 183 through 186, correspondence, log book notes, and photographs of the daily activities. BVSPC's crew conducted oversight of the major field activities on portions of 9 days (August 30 and September 2, 7, 8, 9, 13, 16, 21, and 23, 2004), and the pre-Pre-Final Inspection on September 2, 2004. BVSPC's crew attended four construction coordination meetings at the site on September 2, 9, 16, and 23, 2004, and the Pre-Final Inspection on September 23, 2004.

Topics of Concern:

- Air monitoring activities during Eagle Services work vacuuming the ONCA SBPA ISVE system wells were not clearly established with respect to volatile organic compounds.

Concern Resolution:

- MWH reported that it had identified an existing health and safety procedure that was appropriate for future activities related to the ONCA SBPA ISVE system wells. MWH provided BVSPC a copy of the document *Health and Safety Addendum, Water Level Gauging Within Contaminated Source Areas, ACS NPL Site, Griffith, Indiana*, dated April 22, 2004.

Upcoming Activities:

- MWH to complete installation of the new heat exchanger and start thermox 1.
- MWH to complete expansion and start the OFCA ISVE auxiliary blower system.
- MWH to continue proving out the ONCA SBPA ISVE system wells.
- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE systems.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.
- MWH to complete remaining elements (curbs, fence, stripping) of the SBPA final cover.
- MWH to evaluate soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to complete third quarter groundwater sampling of monitoring wells and annual sampling of residential wells.
- MWH to investigate benzene levels in the lower aquifer in the wetlands area (to begin on November 1).
- MWH to contact local resident regarding "whining" noise from the treatment system.
- EPA and MWH to conduct public meeting regarding construction completion on October 20.

Signature: Larry Campbell

Date: October 11, 2004

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Weekly Oversight Summary Report No. 183
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of August 30, 2004.

BVSPC O/S Dates: August 30 and September 2, 2004 (Mr. Campbell)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	5	Respondent's General Contractor
Indiana Department of Environmental Management	1	State Regulatory Agency
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Boart Longyear	1	Soil Gas Geoprobe Contractor
PSA Environmental	2	Chemical Oxidation Geoprobe Contractor
ISOTEC	4	Chemical Oxidation Injection Contractor
Walsh & Kelly	4	SBPA Grading and Asphalt Contractor
U.S. Floor	3	Epoxy Coating Contractor
Austgen	2	General Contractor
Microbac (formerly Simalabs)	1	GWTP Sampling Contractor
First Choice	1	Hazardous Waste Transporter

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant and the in-situ soil vapor extraction systems.
- Montgomery Watson Harza and Boart Longyear collected soil gas samples in the smear zone plume west of the house at 1002 Reder Road.
- ISOTEC and PSA Environmental began chemical oxidation injections of modified Fenton's reagent in the South Area smear zone plume area.
- U.S. Floor applied epoxy coating to the sulfuric acid secondary containment floor and walls.
- Montgomery Watson Harza held the weekly construction coordination meeting at the site on September 2, 2004.

- Black & Veatch Special Projects Corp. conducted a pre-Pre-Final inspection of the remedial action construction elements.

Activities Performed:

Montgomery Watson Harza (MWH) reported that the diluted leaked sulfuric acid is still being temporarily stored in a group of poly tanks within secondary containments. MWH is currently pumping sulfuric acid into the groundwater treatment plant (GWTP) system from a 55-gallon drum that does not have independent secondary containment.

U.S. Floor placed two applications of epoxy coating on the concrete walls and floor of the sulfuric acid tank secondary containment on September 2. MWH received a new 900 gallon poly tank on September 3. MWH reported that it would install the tank in the GWTP next week, transfer 900 gallons of the diluted sulfuric acid into the new poly tank, and transport the remainder of the acid off-site where it will be disposed, recycled, and/or reused.

MWH reported that it continued to operate the GWTP at 22 gpm and that the GWTP shut down on September 1 when the Global thermal oxidizer unit 2 (thermox 2) shutdown. The GWTP resumed operation on September 2.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through thermox 2. Thermox 2 was shut down on September 1, but had an alarm when it was restarted. Austgen investigated the alarm and returned the unit to operation on September 2. In the meantime, MWH restarted the catalytic oxidizer to process GWTP tank and ISVE system vapors.

The OFCA ISVE system continues to operate with 14 wells. The ONCA SBPA ISVE system continues to operate with 12 wells; however, MWH is now operating a different group of 12 wells that may produce more vapors than the previous group. Power to the SBPA was de-energized while Walsh & Kelly (W&K) graded the interim cover. Ryan has completed 95% of the piping connections for the OFCA auxiliary blower. Austgen will start electrical and control wiring within the next couple of weeks.

W&K completed final grading and compacting the gravel in the ONCA SBPA cover. Because only a limited amount of gravel was disturbed by the final grading, MWH will not conduct additional density testing. W&K plans to construct a test pad at the Griffith Airport using the MatCon asphalt mix next week, sample and test the installed material, and then pave the SBPA final cover later next week. MWH reported that it plans some future grading and regular asphalt paving/curbs around the SBPA cover perimeter to facilitate surface water drainage and erosion protection.

ISOTEC and PSA Environmental mobilized to the site on August 30 to begin chemical oxidation injections in the South Area smear zone plume near the intersection of Reder Road and Colfax Avenue. MWH conducted the H&S briefing and ISOTEC set up equipment in the yard of the residence at 1002 Reder Road. PSA had difficulties getting its geoprobe rig to operate, so no injection occurred on August 30. PSA mobilized another rig and injections began on August 31 and continued through September 2. A total of 48 injection points were completed this week; no work was performed on Friday September 3 because of rain and lightening.

MWH reported that it had met with both the owner and the renter of the residence at 1002 Reder Road to coordinate the chemox injection activities on the property. MWH offered to temporarily house the occupants in a hotel or to pay a month's rent as compensation for the inconvenience to the residents. The residents accepted the latter offer.

MWH and Boart Longyear (BL) conducted soil gas sampling at two locations west of the house at 1002 Reder Road on Monday August 30. Soil gas samples were collected in summa canisters from depths of 6-8 feet and 14-16 feet below ground surface at probe locations about 5 feet and 20 feet west of the house. In addition, background and duplicate samples were also collected. BL demobilized on August 30 after completion of the soil gas sampling.

Black & Veatch Special Projects Corp. (BVSPC) attended MWH's weekly construction coordination meeting at the site on September 2, 2004.

Following this meeting, BVSPC conducted a pre-Pre-Final Inspection of the remedial action construction elements with MWH and Indiana Department of Environmental Management. This inspection consisted of reviewing the elements of the final remedy as identified in the Consent Decree, the Final Remedial Design Report, and the Record of Decision Amendment. BVSPC discussed the EPA guidance for Pre-Final and Final Inspections regarding construction completion events and documentation. BVSPC specifically reviewed the items listed in Appendix G of the Consent Decree that involved construction, namely:

Task ID	Task Description
1a	Close Fire Pond
1b	Spoils Pile Consolidation
1c	Drum Removal from ONCA
1d	PCB Excavation from Wetland
1e	Groundwater Plume Treatment, North and South Areas
2a	ISVE Installation - OFCA
2b	ISVE Installation - KP
2c1	ISVE O&M - OFCA (first 12 months)
2c2	ISVE O&M - KP (first 12 months)
2d	ISVE Installation - SBPA
2e	ISVE O&M - SBPA (first 12 months)
3a	Upgrade GWTP
3b1	Barrier Wall Extraction System Upgrade - OFCA
3b2	Barrier Wall Extraction System Upgrade - ONCA
4a	Separation Barrier Wall
5a	OFCA Temporary Cover

Task ID	Task Description
5b	OFCA Final Cover
5c	ONCA Temporary Cover
5d	ONCA Final Cover

Topics of Concern:

- Air monitoring activities during Eagle Services work vacuuming the ONCA SBPA ISVE system wells were not clearly established with respect to volatile organic compounds.

Concern Resolution:

- MWH reported that it will evaluate procedures that were established for other work activities and determine an appropriate monitoring plan for future activities related to the ONCA SBPA ISVE system wells.

Upcoming Activities:

- MWH to conduct daily H&S tailgate meetings with contractors working on-site.
- MWH to install the new sulfuric acid poly tank in the GWTP, transfer diluted sulfuric acid to the tank, and dispose of the excess diluted sulfuric acid off-site.
- MWH to install the new heat exchanger for the Durr thermal oxidizer unit 1.
- MWH to install a new knockout tank in the ISVE system near the GWTP.
- MWH to complete expansion of the OFCA ISVE auxiliary blower system.
- MWH to continue proving out the ONCA SBPA ISVE system wells.
- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE systems.
- MWH to construct the test pad and place the final SBPA asphalt concrete cover.
- MWH to place the wood chips in the wetland paths to the monitoring wells.
- MWH to evaluate soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to complete chemical oxidation injections in the off-site South Area plume.
- MWH to perform monitoring well maintenance and conduct third-quarter semiannual groundwater sampling of monitoring wells and annual sampling of residential wells.
- MWH to investigate benzene levels in the lower aquifer in the wetlands area.
- MWH and EPA to conduct Pre-Final Inspection of construction on September 23.

Signature: Larry Campbell

Date: September 14, 2004

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR SEPTEMBER 2, 2004 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, September 2, 2004

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS

ATTENDEES: Kevin Adler – U.S. EPA
Prabhakar Kasarabada – IDEM
Larry Campbell – BVSPC
Todd Lewis – MWH
Pete Vagt – MWH
Lee Orosz – MWH
Rob Adams - MWH
Jon Pohl – MWH
Chad Smith – MWH
Chris Daly – MWH

TOPICS:

Health and Safety Summary

There have been no health and safety issues since the last meeting on August 26th. Due to the current activities at the site, comprehensive morning tailgate safety meetings have been held, including all contractor and MWH personnel. Activities at the site since the last meeting have included the chemical oxidation application and soil gas sampling, operating the groundwater treatment plant (GWTP), applying an epoxy floor coating in the GWTP acid storage area, fine grading of the gravel layer in the Still Bottoms Pond Area (SBPA) cover area, pouring the concrete pads around SBPA in-situ vapor extraction (ISVE) wells, installing the equipment for the new blower shed in the Off-Site area, and operating of the Off-Site Area and SBPA (On-Site) ISVE systems.

Groundwater Treatment Plant (GWTP) Status

The GWTP is currently operating at 22 gallons per minute (gpm). The GWTP automatically shutdown on September 1st due to a shutdown of Thermal Oxidizer/ Scrubber Unit 2 (See Therm Ox 2 description below). The GWTP was brought back online on September 2nd. A load of filter cake was sent off-site for disposal on August 30th.

U.S. Floors was onsite September 1st and 2nd to apply an epoxy coating to the sulfuric acid storage area. A 900-gallon acid tank is scheduled to be delivered to the site the week of September 6th. The acid that is currently being contained in temporary storage tanks will be pumped into the new acid tank. Excess acid that will not fit into the new tank will be shipped off-site for reuse.

Off-Site Area/SBPA ISVE Systems

Thermal Oxidizer/Scrubber Unit 2 (Therm Ox 2) has been treating vapors from the Off-Site ISVE system, the On-Site ISVE system, and aeration tank T-102. Therm Ox 2 was shut down on September 1st for routine maintenance and will be brought back on line after a malfunctioning switch or actuator in a pressure valve is replaced. Therm Ox 2 was brought back online on September 2nd.

Both ISVE systems were shutdown during the Therm Ox 2 maintenance activities. The vapors from T-102 are currently being treated by the catalytic oxidizer unit. The On-Site ISVE system was also shut down as a safety precaution while fine grading of the SBPA cover was performed by Walsh & Kelly. Currently there are 14 wells operating in the Off-site area and 12 wells operating in the On-Site area.

The arrival of the new heat exchanger for Thermal Oxidizer/Scrubber Unit 1 (Therm Ox 1) is scheduled for September 3rd. It is anticipated that the unit will be set in place on September 8th. Appropriate health and safety procedures will be followed during the crane lifts.

Ryan Construction is substantially complete with installation of the mechanical components of the Off-Site ISVE expansion equipment including the connection piping. Ausgen Electric is scheduled to begin wiring the electrical and control connections for the new equipment the week of September 6th.

SBPA Final Cover

Walsh & Kelly completed fine grading and compaction of the gravel layer in the SBPA cover area. Because the fine grading only involved working with the top inch of gravel, re-testing for compaction will not be required. The anticipated start date for paving is September 7th, with construction of a pavement test pad. Confirmation on the location is yet to be confirmed but will be at a nearby off-site location. MWH will provide the location and time of the test pad construction to the Agencies and Black & Veatch prior to the work. The paving for the SBPA cover is scheduled to begin on September 9th and continue till the 10th and 11th as necessary.

Wetlands Access Path

Ausgen Equipment will schedule the wetlands access path construction when convenient with other site work. The pathway's have been cleared and graded. The current plan is to complete the placement of wood chips before the end of September.

Chemical Oxidation Application

Thirty-nine of the 380 injections had been completed as of 10AM, September 2nd. MWH has worked out the work logistics with the property owner and the current tenants in order to maximize safety and minimize disruption of the residents. The residents have also been briefed on the health and safety issues related to the work. MWH has also purchased protective pads that will be placed on the lawn if it rains, in order to limit damage. In addition, the driller is using a track-mounted drill rig to limit damage to the yard. A small hydraulic fluid leak was observed from the driller's rig. The leak was fixed and the hydraulic fluid was contained and placed in the GWTP's filter cake box at the GWTP.

Appropriate health and safety procedures are being followed for the chemical oxidation application. This includes placing road signs along Colfax Avenue alerting drivers that there is work occurring near the road. MWH is on schedule to complete the work on September 24th.

The soil gas sampling at the residence near the corner of Colfax Avenue and Reder Road was completed on August 30th. Samples were collected at approximately five feet west of the house and approximately 20 feet west of the house. Samples were pulled from six to eight feet below ground surface (bgs) and 14-16 feet bgs at both locations. In addition, a background ambient air sample was also collected. Results will be received in a couple of weeks.

Look Ahead Schedule

September 3, 2004 through September 9, 2004	<ul style="list-style-type: none"> • Off-Site ISVE system and SBPA ISVE system operation and routine maintenance • GWTP/BWES/PGCS operation and routine maintenance • Full-Scale Chem Ox application work • Continue work on Off-Site blower system expansion • Placement of SBPA asphalt cover • Heat Exchanger delivery for Therm Ox 1 • Finish wetlands paths
Health and Safety Items to Monitor	<ul style="list-style-type: none"> • Safety issues associated with the Chem Ox application • Safety issues associated with the SBPA asphalt work • Safety issues associated with the Off-Site expansion. The system will be shut down while personnel work on the electrical portions of the blower building. • Safety issues associated with crane lift for the

	<p>new heat exchanger.</p> <ul style="list-style-type: none">• Routine daily tailgate health and safety meetings for all work activities
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Next Construction Meeting – Thursday, September 9, 2004, 10 AM.

JDP/RW/PJV

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Weekly Oversight Summary Report No. 184
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 6, 2004.

BVSPC O/S Dates: September 7, 8, & 9, 2004 (Mr. Campbell)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	6	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
PSA Environmental	2	Chemical Oxidation Geoprobe Contractor
ISOTEC	4	Chemical Oxidation Injection Contractor
Walsh & Kelly	21	SBPA Asphalt Paving Contractor
Wilder	2	Asphalt Paving Inspection Contractor
Abatech, Inc.	1	Asphalt Paving QC Contractor
Trugreen/Chemlawn	1	Herbicide Application Contractor
Ryan	2	Mechanical Contractor
Austgen	2	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant and the in-situ soil vapor extraction systems.
- ISOTEC and PSA Environmental continued chemical oxidation injections of modified Fenton's reagent in the South Area smear zone plume area.
- Walsh & Kelly constructed an asphalt concrete test pad and placed the final asphalt concrete cover in the Still Bottoms Pond Area.
- Montgomery Watson Harza installed the new sulfuric acid poly tank.
- Montgomery Watson Harza held the weekly construction coordination meeting at the site on September 9, 2004.

Activities Performed:

Montgomery Watson Harza (MWH) reported that the diluted leaked sulfuric acid is still being temporarily stored in a group of poly tanks within secondary containments. MWH manually placed the new 900 gallon poly tank in the sulfuric acid secondary containment area on September 7, but has not made the piping and

electrical connections. MWH reported that it plans to transfer 900 gallons of the diluted sulfuric acid into the new tank and transport the remainder of the diluted acid off-site where it will be disposed of, recycled, and/or reused. MWH is currently pumping sulfuric acid into the groundwater treatment plant (GWTP) system from a 55-gallon drum that does not have independent secondary containment.

MWH reported that it continued to operate the GWTP at 20 gpm. This reduced rate results from deactivation of the dual-phase extraction wells in the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) because of the asphalt paving operations.

MWH continued to operate the ONCA SBPA and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through the Global thermal oxidizer unit 2 (thermox 2). Thermox 2 was restarted last week on September 2 after it had been shut down on September 1, but had an alarm when it was restarted. Austgen investigated the alarm condition but could not find a specific cause. Thermox 2 has operated well this week.

The OFCA ISVE system continues to operate with 14 wells. The ONCA SBPA ISVE system continues to operate with a different group of 12 wells that may produce more vapors than the previous group. Power to the SBPA ISVE system was de-energized while Walsh & Kelly (W&K) placed the final asphalt concrete (AC) cover on the SBPA. Ryan has completed 95% of the piping connections for the OFCA auxiliary blower. Austgen will start electrical and control wiring of the auxiliary blower next week.

A new heat exchanger, manufactured by Global, to replace the heat exchanger on the Durr-manufactured thermal oxidizer unit 1 (thermox 1), was delivered to the site on September 8. It was off-loaded from the delivery truck using a fork lift. MWH will use a crane next week to install the new heat exchanger in thermox 1. On September 9, Ryan formed and poured a reinforced concrete pad near thermox 1 at the location of a new stainless steel knockout tank to be installed for collection of liquids condensing in the ISVE vapor conveyance piping.

W&K placed an AC (MatCon) test pad at the Griffith Airport on September 7. Wilder (MatCon) construction managers were onsite and provided technical direction to W&K regarding the mixing and placement of the MatCon AC. Also, Dr. Geoffrey Rowe of Abatech, Inc., the independent quality control engineer, observed all aspects of the test pad construction and subsequent density testing.

Following approval of the test pad construction and testing results by Dr. Rowe, W&K began placing the final AC cover on the ONCA SBPA on September 8. Placement of the final AC cover was completed mid-afternoon on September 10, and W&K demobilized from the site. W&K made five density measurements at each of five locations in each 2,000 square foot panel of AC cover using a density meter that had been calibrated based on results of the test pad density testing. Cores of the final AC cover will be obtained next week for laboratory density and permeability testing. Prior to placing the final AC cover, MWH retained Trugreen/Chemlawn to spray a herbicide on the interim gravel cover in an effort to minimize the potential for any plant material rooted in the gravel from growing and potentially damaging the integrity of the final AC cover.

ISOTEC and PSA Environmental continued the chemical oxidation injections in the South Area smear zone plume near the intersection of Reder Road and Colfax Avenue. ISOTEC set up equipment in the yard of

the residence at 1002 Reder Road; injections resumed on September 8 and continued through September 12. A total of 106 injection points were completed during this period, bringing the total through September 12 to 154; 226 points remain to be completed. MWH estimates that the chemical oxidation injection program is approximately 2 days behind schedule because of equipment and weather delays last week. ISOTEC plans to add another pump and mixing tanks to see if four points being injected simultaneously will increase the daily injection rate. ISOTEC and PSA are working a 10-day schedule through September 17; they will resume work on September 20 to complete the program.

Black & Veatch Special Projects Corp. (BVSPC) attended MWH's weekly construction coordination meeting at the site on September 9, 2004.

Topics of Concern:

- Air monitoring activities during Eagle Services work vacuuming the ONCA SBPA ISVE system wells were not clearly established with respect to volatile organic compounds.

Concern Resolution:

- MWH reported that it had identified an existing health and safety procedure that was appropriate for future activities related to the ONCA SBPA ISVE system wells. MWH provided BVSPC a copy of the document *Health and Safety Addendum, Water Level Gauging Within Contaminated Source Areas, ACS NPL Site, Griffith, Indiana*, dated April 22, 2004.

Upcoming Activities:

- MWH to conduct daily H&S tailgate meetings with contractors working on-site.
- MWH to transfer diluted sulfuric acid to the new 900 gallon poly tank and dispose of the excess acid off-site.
- MWH to install the new heat exchanger for the Durr thermal oxidizer unit 1.
- MWH to install a new knockout tank in the ISVE system near the GWTP.
- MWH to complete expansion of the OFCA ISVE auxiliary blower system.
- MWH to continue proving out the ONCA SBPA ISVE system wells.
- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE systems.
- MWH to obtain cores of the final SBPA AC cover for density and permeability testing.
- MWH to place the wood chips in the wetland paths to the monitoring wells.
- MWH to evaluate soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to complete chemical oxidation injections in the off-site South Area plume.
- MWH to perform monitoring well maintenance and conduct third quarter groundwater sampling of monitoring wells and annual sampling of residential wells.
- MWH to investigate benzene levels in the lower aquifer in the wetlands area.
- MWH and EPA to conduct Pre-Final Inspection of construction on September 23.

Signature: Larry Campbell

Date: September 15, 2004

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR SEPTEMBER 9, 2004 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, September 9, 2004

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS

ATTENDEES: Rob Adams – MWH
Kevin Adler – U.S. EPA
Larry Campbell – BVSPC
Rich McCarroll – MWH
Lee Orosz – MWH
Pete Vagt – MWH
Todd Lewis – MWH (by phone)
Aaron Potts – Environ (by phone)
Chad Smith – MWH (by phone)

TOPICS:

Health and Safety Summary

There have been no significant health and safety issues since the last meeting on September 2nd.

Walsh & Kelly did not initially have a back-up alarm on the backhoe brought to the site but the back-up alarm was repaired when MWH pointed the malfunction out to them. MWH contacted Mike Grasso, an MWH health and safety expert, was contacted to obtain clarification on back-up alarm requirements for the blacktop rollers which did not have back-up alarms. Mr. Grasso indicated that blacktop rollers are not typically equipped with back-up alarms and that they would not be required on the rollers. Walsh & Kelly is using spotters to direct equipment back-up and truck bed lifting operations. Tom Froman of the ACS facility requested while on the ACS property, Walsh & Kelly personnel drink liquids only in the facility's designated rest and cooling area.

PSA and ISOTEC are also on site performing the chemical oxidation application work. Both contractors plan to adhere to a 10-hour workday to minimize worker fatigue. MWH has also scheduled a health and safety lunch for PSA, ISOTEC, and MWH personnel on September 14 to discuss any health and safety issues and provide a break for the workers.

Due to the current activities at the site, each on-site contractor held comprehensive morning tailgate safety meetings. Walsh & Kelly truck drivers are also attending the morning tailgate safety meetings. Activities at the site since the last meeting have included the chemical oxidation application and soil gas sampling, operating the groundwater treatment plant (GWTP), unloading the new acid storage tank and heat exchanger, installing the asphalt cover in Bottoms

Pond Area (SBPA) cover area, and operating of the Off-Site Area and SBPA (On-Site) ISVE systems.

MWH provided clarification on the health and safety procedures utilized during the recent ISVE well cleaning activities with Eagle Services. The existing health and safety procedures established for ISVE well monitoring were used during the well cleaning.

Groundwater Treatment Plant (GWTP) Status

The GWTP is currently operating at approximately 20 gallons per minute (gpm). This flowrate is less than previous weeks because the dual-phase extraction wells in the SBPA ISVE areas are shut off for the asphalt installation work.

U.S. Floors completed application of the epoxy coating to the sulfuric acid storage area in September 2nd. The new 900-gallon acid tank was delivered to the site and placed in the secondary containment area on September 3rd. The acid will be transferred from the temporary storage tanks to the new storage tank and temporary storage tanks and excess acid will be shipped off site next week. The actual dates for the shipment has not been scheduled.

Off-Site Area/SBPA ISVE Systems

Thermal Oxidizer/Scrubber Unit 2 (Therm Ox 2) was brought back on line on September 2nd. MWH investigated the potential causes for the system shutdown on September 1st. However, no specific cause was identified. Therm Ox 2 is treating vapors from the Off-Site ISVE system, the aerated equalization tank T-102, and the SBPA ISVE system. Note that the SBPA ISVE system was shut off on September 7 for the asphalt installation work. There were no operational changes for the Off-Site and SBPA ISVE systems.

The new heat exchanger for Thermal Oxidizer/Scrubber Unit 1 (Therm Ox 1) was delivered to the site on September 8th. It was offloaded with a forklift. The heat exchanger is scheduled to be installed on September 13 and Therm Ox 1 is scheduled to be brought back on line on September 14.

Austgen Electric is scheduled to begin the electrical and control work for the Off-Site ISVE expansion during the week of September 13.

SBPA Final Cover

The test pad was completed on September 7 and deemed to meet the project requirements by Walsh & Kelly's independent quality assurance/quality control (QA/QC) expert Dr. Geoffrey Rowe. Walsh & Kelly mobilized and began installing the asphalt cover on September 7. Installation of the asphalt cover is scheduled to be completed in the afternoon of September 10th. MatCon indicated that the asphalt would be ready for traffic loading on September 14th. MatCon will also perform the final QA/QC testing on September 14th.

Tom Froman of the ACS facility had previously indicated that he was expecting a bromine shipment during the morning of September 10th but indicated that he would reschedule it to a date after the asphalt installation is complete. Walsh & Kelly was notified of the potential for this delivery.

Wetlands Access Path

Austgen Equipment inspected the areas where the paths will be installed. No other work in this task has been completed since the last meeting. The work is still scheduled to be completed by September 23rd.

Chemical Oxidation Application

As of the end of the day, Wednesday, September 8th, 70 of the 380 planned Chem Ox injections had been completed. Progress is approximately one and a half days behind schedule. This is due to the loss of one day (September 3rd) due to bad weather and one half of a day for drill rig maintenance on August 30th. Peter Vagt distributed a graph that detailed the progress to date and projected the anticipated completion date. Dr. Vagt indicated that he would routinely email updates to the Agencies and Black & Veatch as the project progresses.

After working longer hours during the first few days of the project, PSA and ISOTEC plan to adhere more closely to a 10-hour workday to minimize worker fatigue. ISOTEC plans to mobilize the additional equipment necessary to inject at four locations simultaneously sometime next week.

Capital Construction Closeout

A pre-pre-final inspection was conducted by Black & Veatch and MWH on September 2nd. MWH distributed a draft status summary table for the capital construction tasks that included: task identification and description, the year that construction of each task was complete, identification of the construction completion documentation for each task, the date that the U.S. EPA approved the construction completion documentation. MWH will continue to complete the table for the pre-certification inspection which is scheduled to occur on September 23rd.

Some members of the ACS PRP Group may in on site on September 16th to tour the site before the pre-certification inspection on September 23rd.

Peter Vagt plans to meet with City officials to identify a location and several potential dates for holding the public meeting.

Miscellaneous

A reporter for the Post Tribune newspaper was on site last week and questioned Matt Mesarch on the chemical oxidation application. Dr. Mesarch answered simple questions and directed the reporter to Pete Vagt and Kevin Adler. The reporter indicated that the newspaper wished to send

a photographer to the site. A photographer did visit the Chem-Ox Area on Thursday and took multiple photographs.

Lee Drosz indicated that the youth group leader for his church wishes to bring a confirmation class to tour the plant on September 28th. The tour would be similar to the previous tours for the Boy Scouts. Kevin Adler stated that he did not have any objections and requested feed back from the youth group if the tour occurred. Pete Vagt will contact Barbara Magel to obtain permission from the PRP Group for the tour.

Look Ahead Schedule

September 10, 2004 through September 16, 2004	<ul style="list-style-type: none"> • Continue Off-Site ISVE system operation and routine maintenance (On-going) • Restart the SBPA ISVE system when the asphalt cover is complete (September 13th) • GWTP/BWES/PGCS operation and routine maintenance (On-going) • Continue Full-Scale Chem Ox application work (On-going) • Begin electrical and control system form on Off-Site blower system expansion (TBD) • Complete placement of SBPA asphalt cover (September 10th) • Complete QA/QC testing of the SBPA asphalt cover (September 14th) • Install the heat exchanger for Therm Ox 1 (September 13th) • Finish wetlands paths (TBD) • Begin groundwater sampling (September 16th) • Transfer acid from temporary tanks to new storage tank and ship (TBD)
Health and Safety Items to Monitor	<ul style="list-style-type: none"> • Safety issues associated with the Chem Ox application including working next to roadways • Safety issues associated with the SBPA asphalt work including overhead hazards • Safety issues associated with the Off-Site expansion. The system will be shut down while personnel work on the electrical portions of the blower building. • Safety issues associated with crane lift for the new heat exchanger. • Routine daily tailgate health and safety meetings for all work activities

Next Construction Meeting – Thursday, September 16, 2004, 10 AM.

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Weekly Oversight Summary Report No. 185
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 13, 2004.

BVSPC O/S Dates: September 13 & 16, 2004 (Mr. Campbell)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	8	Respondent's General Contractor
Karaganis White & Mangel, Ltd.	1	Respondent's Attorney
Environ	1	Respondent's Technical Advisor
Indiana Department of Environmental Management	1	State Regulatory Agency
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
PSA Environmental	2	Chemical Oxidation Geoprobe Contractor
ISOTEC	4	Chemical Oxidation Injection Contractor
Independent Environmental Services	1	General Contractor
Ryan Construction	2	Mechanical Contractor
Austgen	4	General Contractor
Central Crane	1	Crane Contractor
Area Survey	2	Surveyor
Microbac (formerly Simalabs)	1	GWTP Sampling Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant and the in-situ soil vapor extraction systems.
- ISOTEC and PSA Environmental continued chemical oxidation injections of modified Fenton's reagent in the South Area smear zone plume area.
- Walsh & Kelly obtained cores of the asphalt concrete placed as the Final Cover in the Still Bottoms Pond Area.

- Area Survey conducted as-built survey of the Still Bottoms Pond Area final cover.
- Montgomery Watson Harza, Ryan, and Central Crane installed new knockout tank and new heat exchanger for thermal oxidizer unit 1.
- Montgomery Watson Harza transferred 900 gallons of diluted spilled sulfuric acid into the new poly tank in the groundwater treatment plant.
- Montgomery Watson Harza held the weekly construction coordination meeting at the site on September 16, 2004.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it transferred 900 gallons of the diluted leaked sulfuric acid from the temporary storage tanks into the new poly tank in the sulfuric acid secondary containment area on September 13. MWH reported that it plans to transport the remainder of the diluted acid off-site next week where it will be recycled and/or reused. MWH had been pumping sulfuric acid into the groundwater treatment plant (GWTP) system from a 55-gallon drum that did not have independent secondary containment. The remaining acid from the 55-gallon drum was also transferred into the new poly tank, and the drum was properly disposed of.

MWH reported that it continued to operate the GWTP at 20-25 gpm. This reduced rate resulted from deactivation last week of the dual-phase extraction wells in the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) because of the asphalt paving operations. The GWTP was shut down a few hours on both September 13 and 14 because of the crane lifts to install the new knockout tank and the new heat exchanger for the Durr thermal oxidizer unit 1 (thermox 1). The GWTP shut down during the evening of September 15 after a rain storm. Austgen is troubleshooting the problem and returned the GWTP to operation on September 16 after rebooting a logic card.

MWH continued to operate the ONCA SBPA and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through the Global thermox 2. Thermox 2 was shut down on September 13 and 14 because of the crane lifts of the new knockout tank and thermox 1 heat exchanger. MWH acid washed the packing of thermox 2 on September 15 to remove calcium buildup. Austgen removed the metal packing on September 16 to further remove the calcium. Cleaned packing material was reinstalled inside thermox 2 and the unit was restarted on September 17. MWH acid washed the packing material again over the weekend and expected to resume normal operations of thermox 2 on September 20.

The OFCA ISVE system continues to operate with 14 wells; however, the OFCA ISVE system was offline much of the week while Austgen continued electrical and control wiring of the OFCA auxiliary blower. The ONCA SBPA ISVE system was offline this week; it was taken offline during last week's paving of the SBPA final cover and will be restarted when thermox 2 is restarted. When operating, the ONCA SBPA ISVE system continues to operate with a different group of 12 wells that may produce more vapors than the previous group.

MWH successfully pumped air through the replaced air sparge point AS5 in the ONCA SBPA using an air compressor. Future testing will be conducted using the ONCA SBPA air sparge blower. However, attempts to pull vapors from the replaced ISVE well SVE59 were not successful even at a vacuum of 50

inches of water. MWH is continuing to evaluate the efficiency of the ONCA SBPA ISVE system; these test results will be included in a technical memorandum, currently in preparation.

On September 13, Ryan and Central Crane lifted the new stainless steel knockout tank and placed it on the concrete pad between the catalytic oxidizer and thermox 1. Ryan continued installation of the vapor piping to integrate the new knockout tank into the ISVE systems.

On September 13 and 14, Ryan and Central Crane lifted the new heat exchanger, manufactured by Global, to replace the heat exchanger on thermox 1. MWH discovered that the new unit was manufactured incorrectly, and that various connections do not mate with the existing components of thermox 1. Ryan removed the existing steel frame of the old heat exchanger so the new heat exchanger's support legs can rest on the concrete slab. Global is currently manufacturing spacers to fill the 3-inch-wide gaps on the vapor flumes. The new spacers were installed on September 17 and the remaining connections were completed. Restart of thermox 1 is expected next week.

Walsh & Kelly obtained two cores of the final asphalt concrete cover on September 15 for laboratory density and permeability testing. The core holes were backfilled with liquid asphalt. Both cores were obtained in the southeast quadrant of the SBPA final cover, separated by about 3 feet. On September 17, Area Survey conducted a topographic survey of the SBPA final cover to gather data needed for quantity determination and to prepare as-built drawings.

ISOTEC and PSA Environmental continued the chemical oxidation injections in the South Area smear zone plume near the intersection of Reder Road and Colfax Avenue. ISOTEC set up equipment in the yard of the residence at 1002 Reder Road; injections continued from September 13 and through September 17. A total of 102 injection points were completed during this period, bringing the total through September 17 to 256; 124 points remain to be completed. MWH estimates that the chemical oxidation injection program is approximately 2 days behind schedule because of earlier equipment and weather delays. ISOTEC continued using three pumps and mixing tanks to inject the modified Fenton's reagent. ISOTEC and PSA will resume work on September 20 to complete the program.

Last weekend, Austgen placed filter fabric on access pathways to monitoring wells in the wetlands and began spreading wood chips thereon. Approximately 90% of the paths have been covered. Austgen expects to complete the work this upcoming weekend.

MWH started maintenance and repair of monitoring wells on September 16. Some monitoring wells are being redeveloped and locks and risers are being repaired. MWH plans to start the third quarter monitoring well and annual residential well sampling next Monday, September 20.

Black & Veatch Special Projects Corp. (BVSPC) attended MWH's weekly construction coordination meeting at the site on September 16, 2004.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to conduct daily H&S tailgate meetings with contractors working on-site.
- MWH to dispose of the excess diluted sulfuric acid off-site and temporary storage tanks.
- MWH to complete installation of the new heat exchanger and start the Durr thermox 1.
- MWH to complete installation of the new knockout tank in the ISVE system.
- MWH to complete expansion and start the OFCA ISVE auxiliary blower system.
- MWH to continue proving out the ONCA SBPA ISVE system wells.
- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE systems.
- MWH to assess results of final laboratory testing of cores of the final SBPA AC cover.
- MWH to complete placing the wood chips in the wetland paths to the monitoring wells.
- MWH to evaluate soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to complete chemical oxidation injections in the off-site South Area plume.
- MWH to perform monitoring well maintenance and conduct third quarter groundwater sampling of monitoring wells and annual sampling of residential wells.
- MWH to investigate benzene levels in the lower aquifer in the wetlands area.
- EPA to conduct Pre-Final Inspection of construction elements of the remedial action on September 23.

Signature: Larry Campbell

Date: September 24, 2004

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR SEPTEMBER 16, 2004 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, September 16, 2004

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS

ATTENDEES: Rob Adams – MWH
Larry Campbell – BVSPC
Prabhakar Kasarabada – IDEM
Todd Lewis – MWH
Rich McCarroll – MWH
Matt Mesarch – MWH
Lee Orosz – MWH
Mark Travers – Environ
Pete Vagt – MWH
Kevin Adler – U.S. EPA (by phone)
Chris Daly – MWH (by phone)

TOPICS:

Health and Safety Summary

There have been no significant health and safety issues since the last meeting on September 9th.

Crate picks were conducted on September 13th and 14th to set the new knockout tank and the new heat exchanger for Thermal Oxidizer #1 (Therm Ox 1). A tailgate safety meeting was conducted prior to the lifts to confirm that the crane operator had the proper documentation and that he know that he was not to use a cellular phone while operating the crane.

MWH employees are talking to the residents where the chemical oxidation injections are taking place on a daily basis to keep them informed of the work, answer questions, and address concerns that they may have. Regular air monitoring of the Chem Ox work area is being conducted with a photoionization detector. No vapors have been detected.

A health and safety lunch was held on September 14th for the onsite contractors and MWH employees. Crews from PSA, ISOTEC, Ryan Construction, and Austgen Electric attended. The objective of the lunch was to provide a break for the workers, reward them their health and safety focus, and provide a forum for general health and safety discussions.

Groundwater Treatment Plant (GWTP) Status

The GWTP operated between 20 to 25 gallons per minute (gpm) since the meeting on September 9th. The GWTP was shut down during the night of September 15th due to the storm that passed through the area. MWH contacted Austgen Electric and they are currently diagnosing the cause

of the shutdown. MWH plans to bring the GWTP back in the afternoon of September 16th. When the GWPT is brought back online, the vapors from the aerated equalization tank (T-102) will be directed to the catalytic oxidizer/scrubber unit. The annual compliance samples for the catalytic oxidizer/scrubber unit will be collected once the unit is brought online.

The sulfuric acid was transferred to the new acid storage tank on September 14th. The temporary acid holding tanks and excess acid are scheduled to be shipped off site on September 20th. The acid will be transported to an acid use facility in St. Louis, Missouri. The acid is considered a product and will be shipped with a bill of lading. Because it is not a hazardous waste, a manifest will not be required.

Off-Site Area/SBPA ISVE Systems

Thermal Oxidizer/Scrubber Unit 2 (Therm Ox 2) was taken offline on September 14th as a safety precaution for the crane lifts in the vicinity and for routine maintenance. The routine maintenance included acid washing of the scrubber packing, manual inspection and additional hand cleaning of the packing, and re-acid washing the scrubber packing. Therm Ox 2 is anticipated to be brought back on line on September 17th.

The new heat exchanger for Therm Ox 1 was set in place on September 14th. During placement of the heat exchanger a fabrication error was identified – the connection points on the bottom of the unit are off by three inches. The heat exchanger fabricator, Global Environmental, was notified and they are currently fabricating new sections to correct the error. The new sections are scheduled to be delivered to the site on September 17th. Installation of the heat exchanger including the new sections and control wiring is scheduled to be completed on September 20th. The unit is scheduled to be started on September 21st and receiving vapors on September 22nd when the unit has reached its operating temperature.

The Off-Site ISVE system is currently offline while Austgen completes the electrical and control wiring for the upgrades. The wiring is scheduled to be completed on September 21st. MWH will conduct start-up and "shakedown" testing of the equipment upgrades when the wiring is complete.

The Still Bottoms Pond Area (SBPA) ISVE system is currently offline. The SBPA ISVE system was taken offline for installation of the SBPA Final Cover and will be brought back on line then Therm Ox 2 is restarted (anticipated on September 17th).

MWH completed follow-up testing of air sparge point AS-5 and ISVE well SVE57. Air could be injected into AS-5 by a compressor temporarily connected at the well head. A second test will be conducted by using the actual air sparge blower to inject air. This test will be conducted when the ISVE system is brought back online. MWH applied a vacuum of 50 inches of water to SVE-57 to test its effectiveness for vapor extraction. No vapor flow could be extracted from SVE-57. MWH is currently finalizing a memorandum that summarizes the SBPA well tests and results.

SBPA Final Cover

Installation of the SBPA Final Cover was completed on September 11th. Core samples of the installed asphalt were collected on September 15th for quality assurance. The quality assurance/quality control manager for the asphalt, Dr. Rowe, verbally indicated to MWH and Black & Veatch that he was satisfied with the installation.

MWH is planning to conduct some additional work on the SBPA Final Cover to dress up of the edges of the cover, install storm water diversion curbs to further direct storm water to the catch basins, expand the fencing, and address some ponding areas on the cover.

Wetlands Access Path

Installation of the wetlands paths is approximately 90% complete. It was too wet to install the approximately 30 to 40 feet of paths. The remaining path lengths will be installed when the ground either dries or freezes sufficiently for access.

Chemical Oxidation Application

As of the end of the day, Wednesday, September 15th, 218 of the 380 planned Chem Ox injections had been completed. Work is progressing at a rate of completing approximately 21 to 22 points per day which is greater than the 20 points anticipated. Work is scheduled to be completed on September 24th but the crew will work through the following weekend, if necessary, to complete the work by September 30th. PSA and ISOPTEC will be working shorter days on September 17th and 20th to allow for weekend travel. Work on the east side of Colfax Road is scheduled to be completed on either the 20th or 21st of September at which time work will commence on the west side of Colfax Avenue. The work crew will need a water supply from the GWTP when working on the west side of Colfax Avenue.

A fourth injection pump was delivered to the site on September 15th. However, the pump has not been used because three pumps have been sufficient to keep up with the drillers.

MWH plans to fix damage to the grass resulting from the Chem Ox injection work September 20th.

Groundwater and Residential Well Sampling

Groundwater and residential well sampling will begin on September 20th. MWH personnel are currently purging a few of the monitoring wells where silt had been observed during previous sampling events. Well purging began on September 16th is expected to be completed in one day.

Capital Construction Closeout

The pre-certification inspection is still scheduled for September 23rd. The Construction meeting will be held at 10AM and the inspection will be conducted after the meeting.

Kevin Adler provided clarification on the process and requirements for demonstrating construction completion.

Look Ahead Schedule

September 17, 2004 through September 23, 2004	<ul style="list-style-type: none">• Complete Off-Site ISVE system upgrades (September 21st)• Begin test-out of the Off-Site ISVE system upgrades (September 21st)• Restart and operate the SBPA ISVE system (September 17th)• GWTP/BWES/PGCS operation and routine maintenance (On-going)• Continue Full-Scale Chem Ox application work (On-going)• Complete installation the heat exchanger for Therm Ox 1 (September 20th)• Begin groundwater sampling (September 20th)• Ship acid from temporary tanks and excess acid (September 20th) Conduct the Pre-Certification Inspection (September 23 rd)
Health and Safety Items to Monitor	<ul style="list-style-type: none">• Safety issues associated with the Chem Ox application including working next to roadways• Safety issues associated with the Off-Site expansion. The system will be shut down while personnel work on the electrical portions of the blower building.• Routine daily tailgate health and safety meetings for all work activities

Next Construction Meeting – Thursday, September 23, 2004, 10 AM.

RAA

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Weekly Oversight Summary Report No. 186
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 20, 2004.

BVSPC O/S Dates: September 21 & 23, 2004 (Mr. Campbell)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	6	Respondent's General Contractor
Environ	1	Respondent's Technical Advisor
American Chemical Services, Inc.	1	ACS Plant Manager
U.S. Environmental Protection Agency	1	Federal Regulatory Agency
Indiana Department of Environmental Management	1	State Regulatory Agency
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
PSA Environmental	2	Chemical Oxidation Geoprobe Contractor
ISOTEC	4	Chemical Oxidation Injection Contractor
Independent Environmental Services	2	General Contractor
Ryan Construction	2	Mechanical Contractor
Austgen	3	General Contractor
Torrenga	2	Hazardous Waste Transporter

Construction Activities

Major Activities:

- Montgomery Watson Harza continued operating the groundwater treatment plant and the in-situ soil vapor extraction systems.
- ISOTEC and PSA Environmental continued chemical oxidation injections of modified Fenton's reagent in the South Area smear zone plume area.
- Ryan installed the new knockout tank and new heat exchanger for thermal oxidizer unit 1.
- Montgomery Watson Harza disposed of remaining diluted spilled sulfuric acid offsite and removed temporary acid storage tanks.

- Austgen completed placing filter fabric and wood chips on the access pathways to monitoring wells in the wetlands.
- Montgomery Watson Harza conducted third quarter monitoring well sampling.
- Montgomery Watson Harza held the weekly construction coordination meeting at the site on September 23.
- Environmental Protection Agency conducted Pre-Final Inspection of the remedial action construction elements on September 23.

Activities Performed:

Montgomery Watson Harza (MWH) reported that Torrenga transported the remainder of the diluted sulfuric acid off-site for recycle/reuse on September 20. MWH had the vendor remove the temporary storage tanks and their secondary containments on September 21. Sulfuric acid is being pumped into the groundwater treatment plant (GWTP) system from the new 900 gallon poly tank.

MWH reported that it continued to operate the GWTP at 25 gpm. The GWTP was shut down several times for routine maintenance and to work on thermal oxidizer unit 2 (thermox 2). Because of problems with the pump controllers, groundwater is not currently being pumped and treated from extraction wells MW10C and MW56. The pump controllers have been removed for inspection and repair/replacement.

MWH continued to operate the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems, processing vapors through the Global thermox 2. Thermox 2 was restarted on September 20 after regular maintenance and acid washing of the thermox 2 scrubber. Because of pH control issues (probably from the acid washing), thermox 2 automatically shut down on September 22. MWH is investigating the problem.

The OFCA ISVE system continues to operate with 14 wells; however, the OFCA ISVE system was offline much of the week while Austgen continued electrical and control wiring of the OFCA auxiliary blower, which is approximately 95% complete. The ONCA SBPA ISVE system was offline this week: it was taken offline during paving of the SBPA final cover and will be restarted when thermox 2 is restarted. When operating, the ONCA SBPA ISVE system continues to operate with a different group of 12 wells that may produce more vapors than the previous group.

Ryan continued installation of the vapor piping to integrate the new knockout tank into the ISVE systems at the GWTP. Ryan continued installation of the new Global heat exchanger for thermox 1. Final vapor piping and control wiring should be completed next week and operations will begin to restart thermox 1.

Independent Environmental Services (IES) filled the bases of new fence stanchions with sand and placed the stanchions around the ISVE wells in the SBPA. MWH plans to make additional changes to the SBPA final cover, including placing asphalt to dress up the edges of the cover, installing asphalt curbs to control and direct surface water flow to storm drains, complete the fencing around the ISVE wells, and paint stripes to delineate the roadway area (for heavy trucks) across the SBPA final cover.

ISOTEC and PSA Environmental continued the chemical oxidation injections in the South Area smear zone plume near the intersection of Reder Road and Colfax Avenue. ISOTEC set up equipment in the yard of the residence at 1002 Reder Road and later in the OFCA; injections continued from September 20 through

September 24. A total of 115 injection points were completed during this period, bringing the total to 371. ISOTEC continued using three pumps and mixing tanks to inject the modified Fenton's reagent. ISOTEC and PSA expect to complete the chemox injections on September 25, one day later than originally planned, and will promptly demobilize from the site.

Last weekend, Austgen completed placement of the filter fabric and wood chips on access pathways to monitoring wells in the wetlands.

EPA reported that a local resident had contacted the EPA and complained about the "whining" noise coming from the treatment system. MWH will investigate this complaint.

MWH conducted the third-quarter semiannual groundwater monitoring well sampling from September 20 through September 24. Monitoring well sampling will be completed early next week and then the residential well sampling will be conducted.

Black & Veatch Special Projects Corp. (BVSPC) attended MWH's weekly construction coordination meeting at the site on September 23, 2004. BVSPC also attended the Pre-Final Inspection of the remedial action elements conducted by the EPA work assignment manager immediately following the construction coordination meeting.

Topics of Concern: None.

Concern Resolution: None.

Upcoming Activities:

- MWH to complete installation of the new heat exchanger and start thermox 1.
- MWH to complete expansion and start the OFCA ISVE auxiliary blower system.
- MWH to continue proving out the ONCA SBPA ISVE system wells.
- MWH to continue operating the GWTP and the OFCA and ONCA SBPA ISVE systems.
- MWH to assess results of final laboratory testing of cores of the SBPA final asphalt cover.
- MWH to complete remaining elements (curbs, fence, stripping) of the SBPA final cover.
- MWH to evaluate soil gas samples to assess possible soil vapor intrusion into the house basement resulting from the smear zone in the South Area plume.
- MWH to complete third quarter groundwater sampling of monitoring wells and annual sampling of residential wells.
- MWH to investigate benzene levels in the lower aquifer in the wetlands area (to begin on November 1).
- MWH to contact local resident regarding "whining" noise from the treatment system.
- EPA and MWH to conduct public meeting regarding construction completion on October 20.

Signature: Larry Campbell

Date: October 6, 2004

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR SEPTEMBER 23, 2004 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, September 23, 2004

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS

ATTENDEES: Rob Adams – MWH
Kevin Adler – U.S. EPA
Larry Campbell – BVSPC
Tom Froman – ACS
Prabhakar Kasarabada – IDEM
Todd Lewis – MWH
Matt Mesarch – MWH
Mark Travers – Environ
Pete Vagt – MWH
Chris Daly – MWH (via phone)
Jon Pohl – MWH (via phone)

TOPICS:

Health and Safety Summary

There have been no significant health and safety issues since the last meeting on September 16th.

ISO/IEC connected a water hose to the effluent of the groundwater treatment plant (GWTP) for a clean water supply. The pressure from the GWTP effluent is greater than the water pressure at the city fire hydrant that had previously been used to supply water. The increased pressure caused a valve to break resulting in a pool of water along Colfax Avenue. A passerby observed the pool of water and contacted the Griffith Fire Department who came to the site to investigate. MWH personnel explained that the water was clean and not dangerous. Fire Department personnel tested the water with litmus paper for confirmation. The litmus paper indicated that the water had a neutral pH. The Fire Department also indicated that a Tier II permit was required for the tanks being used at the site. However, inquiries by MWH indicated that this permit was not required by the ACS PRP group for the chemical oxidation work.

Groundwater Treatment Plant (GWTP) Status

The GWTP has operated at 25 gallons per minute (gpm) since the meeting on September 16th. The GWTP was shut down for short durations for routine maintenance and to work on Thermal Oxidizer/Scrubber 2 (Therm Ox 2). It is anticipated that the GWTP and Therm Ox 2 will be brought back online on September 23rd.

The remainder of the acid stored in temporary storage tanks in the GWTP was shipped off-site on September 20th. The temporary storage tanks were then cleaned and returned to the rental company on September 20th.

A change out of the granular activated carbon (GAC) vessels is scheduled for the week of September 27th.

Extraction wells MW56 and MW10C are offline due to problems with the pump controllers. The controllers have been removed for inspection to determine if they can be repaired or if they need to be replaced. The extraction wells will be put back into service once the controller issues have been addressed.

Off-Site Area/SBPA ISVE Systems

Thermal Oxidizer/Scrubber Unit 2 (Therm Ox 2) was brought back online on September 20th after routine maintenance, including acid washing of the scrubber packing and removal of damaged packing, was completed. However, due to ineffective pH control, Therm Ox 2 automatically shut down. It is believed that the poor pH control is the result residual acid in the scrubber from the acid washing and it is expected that a few startups of the unit will flush the residual acid from the unit and allow for proper operation.

The new heat exchanger for Thermal Oxidizer/Scrubber Unit 1 (Therm Ox 1), including the new orifice spacers, has been installed and connected. MWH is completing final control wiring and preparing to restart the unit.

The Off-Site ISVE system is currently offline while Austgen completes the electrical and control wiring for the upgrades. The electrical wiring is approximately 95 percent complete and will be finished when the new control panel and motor starters are delivered the week of September 27th. MWH will conduct start-up and "shakedown" testing of the equipment upgrades when the wiring is complete.

The Still Bottoms Pond Area (SBPA) ISVE system is currently offline. The SBPA ISVE system was taken offline for installation of the SBPA Final Cover and will be brought back on line then Therm Ox 2 is restarted.

SBPA Final Cover

MWH is planning to conduct some additional work on the SBPA Final Cover to dress up of the edges of the cover, install storm water diversion curbs to further direct storm water to the catch basins, expand the fencing, and address some ponding areas on the cover.

MWH is evaluating methods to demarcate the designated truck route. The cover has been designed to allow fork trucks and smaller service vehicles to access any portion of the cover.

Wetlands Access Path

Installation of the wetlands paths was completed on September 17th.

Chemical Oxidation Application

As of the end of the day, Wednesday, September 22nd, 77 of the 380 Chem Ox injections remained to be completed. It is anticipated that the actual total number of Chem Ox injections

points at completion will be 389 or 390 due to additional points that were advanced to account for site conditions. Work in the residential yard on the east side of Colfax Avenue was completed and work along the west side of the street began. It is anticipated that the work will be completed on September 25th.

During the application, monitoring points were installed at 3 locations between injection points to measure evidence for the reaction. This was done by recording the temperature of the groundwater prior to, just after chem ox injection, and at least a half hour after injection. A rise in the groundwater temperature, indicates the chem ox was causing a reaction. A definitive rise (25°C to 40°C) in groundwater temperature was observed at all of the monitoring points.

Air monitoring with a photoionization detector (PID) has been routinely performed throughout the injection work. On one occasion, the PID indicated a sustained elevated volatile organic compound (VOC) reading in the worker breathing zone in the work area. The work area was evacuated for approximately 30 minutes. Readings were then collected again with the PID at the same location. The readings indicated no VOCs were present and work resumed.

Larry Campbell inquired if there were any plans to address potential contamination directly beneath Colfax Avenue because no injection points are planned for within the roadway. Peter Vagt indicated that the results from this injection round will be used to evaluate need to modify the injection plan to contamination beneath Colfax Avenue.

Groundwater and Residential Well Sampling

As of the September 23rd meeting, Groundwater sampling was 50-percent complete (14 out of 28 wells had been sampled) and is on schedule for completion on September 27th. Residential well sampling is scheduled to begin on September 28th.

Lower Aquifer Investigation

MWH received approval for the lower aquifer investigation on September 23rd. Investigation of the lower aquifer is scheduled to begin on November 1st.

Construction Completion

The public meeting is tentatively scheduled for October 20th. The meeting is will start sometime between 1PM and 3PM and be completed by 5PM.

Miscellaneous

Peter Vagt will contact the resident who inquired about the "whining" noise that a nearby resident suggests may be coming from the plant.

Look Ahead Schedule

September 24, 2004 through October 7, 2004	<ul style="list-style-type: none"> • Complete Off-Site ISVE system upgrades (during week of September 27) • Begin test-out of the Off-Site ISVE system upgrades (during week of September 27) • Restart and operate the SBPA and Off-Site ISVE systems (during week of September 27) • GWTP/BWES/PGCS operation and routine maintenance (on-going) • Complete Full-Scale Chem Ox application work (complete by September 25th) • Complete startup of the heat exchanger for Therm Ox 1 (during week of September 27) • Complete groundwater sampling (complete by September 27th) • Residential well sampling (begin on September 28th) • Conduct the Pre-Certification Inspection (conduct on September 23rd) • Complete SBPA Cover finishing work (TBD)
Health and Safety Items to Monitor	<ul style="list-style-type: none"> • Safety issues associated with the Chem Ox application including working next to roadways • Safety issues associated with the Off-Site ISVE system expansion. The system will be shut down while personnel work on the electrical portions of the blower building. • Routine daily tailgate health and safety meetings for all work activities

Next Construction Meeting – Thursday, October 7, 2004, 10 AM.

IDP/RJA/PIV

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**CONSTRUCTION COMPLETION PRE-CERTIFICATION INSPECTION
MINUTES AND PUNCH LIST
SEPTEMBER 23, 2004
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

INSPECTION DATE: Thursday, September 23, 2004

MEETING TIME: 11:00 AM

MEETING LOCATION: ACS Site

PARTICIPANTS: Rob Adams – MWH
Kevin Adler – U.S. EPA
Larry Campbell – BVSPC
Tom Fromman – ACS
Prabhakar Kasarabada – IDEM
Todd Lewis – MWH
Mark Travers – Environ
Pete Vagt – MWH

TOPICS

General

The Construction Completion Pre-Certification Inspection was conducted at the site beginning at 11:00AM. The participants are listed above.

During the meeting, Kevin Adler stated that he only needed to inspect the Final On-Site Cover and the Chemical Oxidation Application in the South Area because the other tasks already have Agency-approved Construction Completion Reports.

The punch list items from the inspection are listed below by task.

Final On-Site Cover (Consent Decree Item 5.d)

The field inspection for this task began at 11:15AM. Below are the punch list items:

1. The outer edge of the asphalt cover will be backfilled with stone and graded to provide a smooth transition between the cover and the surrounding area.
2. The areas around some of the catch basins will be paved with regular asphalt to improve stormwater capture.

3. A curb will be constructed along the south edge of the asphalt cover to minimize stormwater runoff and improve stormwater capture.
4. Multiple areas of minor surface water ponding were identified on the cover. These areas will be addressed to eliminate and/or minimize ponding.
5. The existing fencing system will be expanded to enclose more in-situ soil vapor extraction (ISVE) wells.
6. The approved truck traffic areas will be field demarcated.

Chemical Oxidation Application in the South Area (Consent Decree Item 1.c)

The field inspection for this task began at 11:30AM. Tom Froman did not participate during this inspection. Matt Mesarch of MWH was present during this inspection item. Below are the punch list items:

1. Application of the chemical oxidation injections needs to be completed. There were 65 points remaining.
2. The chemical oxidation injection crews need to demobilize.
3. Restoration of the residence yard needs to be completed.
4. The indoor air intrusion work at the residence needs to be completed.

Conclusion

The inspection was completed at approximately 12:00PM.

RAA/DP

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(18)

30 Aug 04
0750 Arrive onsite - clear, calm
Cool 54°F

Personnel onsite

Rich McCarrell	MWH	Heiz 3 Lox & Transp. truck
Lee Orosz	"	
Jim Foch	1st Choice	
Matt Mesarch	MWH	
Kenny Doane	PSA	
Adam Butler	"	
Larry Campbell	BUSPC	
Tom Andrews	ISOtec	
Chad Smith	MWH	
David Powers	MWH	
Robert Lox	Austgen	
Gary Schreiber	ISOtec	
Mark Dorn	Burt Longyear	
Kevin O'Neil	ISOtec	

0800 PSA personnel onsite But ISOtec

personnel were not, only supervisor

0930 Chad Matt spotted locations
for ISOtec injections at 1002
Rader Road

1030 ISOtec materials ~~arrived~~ ^{are} arrive on
delivery truck

Jim Campbell

(19)

1115 MWH conducted H&S mts of
ISOtech, PSA, & Burt Longyear
personnel.

1156 Photo 62-21 Looking W showing
large tank of ~~peroxide~~ ^{peroxide} ~~hydrogen~~ ^{hydrogen} ~~peroxide~~
used for Medford Forests Annual
injections by ISOtec. Also
note arrival of Port-a-Potty truck.

1211 Photo 62-22 Looking N showing
BL pushing first soil vapor probe into
ground near W side of house at 1002
Rader Rd. * ACS-SG-SPO1

1216 Photo 62-23 Looking N at BL
inserting poly ~~thene~~ ^{thene} sampling tube into
drill rods to collect soil gas sample

1234 Photo 62-24 Looking SW at MWH
purging vapor from sampling tubing.
Rods pushed to 8' & removed to 6' depth

1237 Photo 62-25 Looking SW at MWH
connecting sample tubing to SUMMA
canister

1320 MWH completed collecting
first soil vapor sample

1325 Photo 62-26 Looking NE at BL
deconing rods prior to next sampling

Jim Campbell

(20)

27 June

NE

- 1343 Photo 62-26 Looking ~~at~~ at
Isotec setup for injection—
filling poly tubing w/ water.
- 1530 Photo 63-01 Looking ~~at~~ NE
at BL installing poly tubing in
2nd probe hole.
- 1535 MWH Reported that PSA is
having problems w/ its HDT
rig—can't get it ~~to~~ start.
Trying to locate new starter
MWH also reports that Isotec
having difficulty getting
sufficient water flow to
fill tanks. Mgr went to
purchase large dia. poly tubing
to facilitate flow. Because
of these problems—can't get
any Chemox injection done
today.
- 1537 Photo 63-02 Looking NE
at MWH installing Summa
Canister at 2nd probe hole.
- 1542 MWH Reported that PSA will
have a truck mtd. rig onsite
tomorrow morning. MWH plans

J M Campbell

(21)

- to use truck mtd. rig along a/say
and possibly in driveway at 1002
Reder Rd. Don't want to use truck-
mtd rig on grass near house to
minimize ruts.
- 1605 MWH Completed collecting sample
ACS-⁵⁶SP02-106-08. BL drove rods to
16'. MWH set up Summa canister
to collect sample ACS-56-SP02-14-16
- 1610 Isotec loaded equipment onto
trucks for the day—will not
be able to inject today.
- 1630 Leave site for day

(22)

2 Sept 04

0805 Arrive onsite, clear
Cool 66°F, calm

Personnel Onsite

Lee Orosz	MWH
Matt Mesarich	MWH
Jerome Franks	W&K
John Shuttz	W&K
Kevin O'Neal	Isotec
Nathan Torres	"
Tom Andrews	"
Gary Schreiner	"
Tim Kirkland	Austgen
Kenny Doane	PSA Envl.
Aaron Bather	"
Diego Acuna	USFlood
Abel Martinez	"
Erge Diaz	"
Gary Hoffman	W&K
Todd Lewis	MWH
Rob Adams	"
Pete Vagt	"
Larry Camphor	BVSPC
Prabhakar Kasarabada	IDEM

0840 Photo 63-03 ~~At~~ JMC Looking NW
at sulfuric acid secondary containment

JM Campbell

(23)

after being coated today by U.S. Floor
0856 Photo 63-04 Looking NW at effluent
from ACS Testing of fire water system

0900 Photo 63-05 Looking NW at new
conc. pad at new SVE59

0903 Photo 63-06 Looking NW at Washin-
most storm drain conc. pad on S. side SBPA

0906 Photo 63-07 Looking NW at center
storm drain conc. pad on S. side SBPA

0908 Photo 63-08 Looking E at
Walsh & Kelly final grading of SBPA gravel
cap near E perimeter.

0912 Photo 63-09 Looking SW at ASS
new concrete cap

0926 Photo 63-10 Looking NW at
Isotec setup for injecting

0927 Photo 63-11 Looking SW at locations
where injections have been completed
(pink ribbons)

0930 Inspect OFCA blower shed & new
auxiliary shed and OFCA cap w/ MWH.

1000 Construction Coord. Mtg

1045 See Notes later on pg 27-30

1100 Pre Pre Final Inspection w/ MWH personnel
1145 P. Vagt, R. Adams, T. Lewis, L. Orosz &

JM Campbell

(24)

Prabhatkar (IDEM).

Discussed EPA guidance for
Pre Final + Final inspections re
Construction Completion. Specifically
required items of Consent Decree
requiring construction (App. G)

1a Close Fire Pond

1b Spill Pile Consolidation

1c ONCA drum removal

1d PCB excav. in wetland

1e N&S area GW plumes

2a ISVE Installation - OFCA

2b " " - KP

2c1 ISVE O&M (12 mo) - OFCA

2c2 " " " - KP

2d ISVE Installation - SBPA

2e " O&M (12 mo) SBPA

3a Upgrade GWTP

3b Upgrade Barrier Wall Ext. Systems

4a Separation Barrier Wall

5a OFCA Temp Cover

5b " Final "

5c ONCA Temp "

5d " Final "

Almost all activities have been

Jim Campbell

(25)

Completed and documented in
Construction Completion reports (CCRs)
except 1e (S. Area plume) and 5d
(ONCA Final Cover).

Discussed types of information to
have available during Pre Final
Inspection on 9/23/04 (Typically
dates of CCRs & Agency approvals of CCRs).

1145 Pre Pre Final over

1155 Photo 63-12 Looking NW at
USF&W personnel applying epoxy
coating (final) to acid secondary
containment area.

1200 - 1300 Lunch

1418 Photo 63-13 Looking N showing
Isotac injecting into 3 points simultaneously.

1425 Photo 63-14 Looking E at PSA pulling
rod from completed injection point &
deconvolving removed rods (L)

1429 Photo 63-15 Looking S at PSA
backfilling probe hole w/ bentonite pellets
(Note MWH monitoring inj. pt. rods for
Vapors.)

1433 Photo 63-16 Looking N at Isotac
placing bentonite around injection pt. rod

Jim Campbell

(26)

Where "blowby" was occurring
(Injection fluids were coming to
surface).

1452 Photo 63-17 Looking N of
PSA installing injection pt. rods.

1615 Photo 63-18 Looking W of
PSA maneuvering rig via remote
control. & using mats to avoid
damage to yard when turning rig.

1635 Left site for day

Jim Campbell

(27)

2 Sept 04

1000 Construction Mtg. Minutes

Personnel in Mtg

At Site: Pete Vagt, Lee Cross, Todd
Lewis, Rob Adams - MWH
Prabhakar Kasarabada - IDEM

Larry Campbell - BUSPC

ON Phone: Jon Pohl, Chad Smith - MWH
Kevin Adler - EPA

H&S No issues since last mtg. Have
held daily tailgate H&S mtgs w/ the many
contractors working at site. De energized
power to ONCA when contractors
working in SBPA. L. McCampbell ask
about resolution of SBPA sampling / M assessment
H&S issue. Not clarified fully.

Campbell to clarify question to MWH

GLWTP Operating at 22 gpm today.
No problems. Plant shut down last
night because of problem in Thormax 2
MWH shipped filter cake off site on Monday.
Thormax 2 Shut down yesterday for
maintenance. When restarted, got
an alarm - probably malfunctioning.

Jim Campbell

(28)

Switch a Valve or Sup. Austgen
to check out today. MWH
started CatOx unit to process
tank & ISUE vapors

Thermox Delivery of new heat
exchanger delayed till tomorrow.
MWH will use Austgen crane to off-
load unit but will not set unit
in place until next week

ONCA ISUE Running ok until
shut down yesterday while W&K
graded cap

OFCA ISUE Working ok. New
blower shed & 95% piping done
Austgen to install electrical soon

ONCA Final Cover - W&K will
complete grading today. Will then
do final compaction of graded
surface. MWA doesn't plan to
do more compaction testing since
only small amt of matl disturbed.
Next Tues. week to build test pad.
May be at offsite location. Then
Wilden will do QC testing of
test pad. If all is ok, W&K

Jim Campbell

(29)

Will pave SBPA on Thur, Fri &
Sat. (if necessary) - MWH plans some
future grading/paving (normal
asphalt) and curbs at SBPA
cancer perimeter.

Wetland Patches Austgen to place
wood chips & geotextile by end
of Sept. May try to get done prior
to GW sampling on 9/20.

Chem Ox Difficulties w/ equip on
Monday. Started in earnest on Tues.
Got 12 points installed Tues (2/line)
Got 17 " " Wed (3/line)
MWH talked to owner of Tenant
at 1802 Reder Rd to coordinate
injection activities.

Soil Gas Sampling Monday - Boart
Longyear & MWH collected soil
vapor samples at 2 locations
(5' & 20' W. of house) at 2
depths each (6'-8' & 14'-16' bgs) +
surface background & duplicate.

Acid Tank Containment US Floor recoated
secondary containment floor & walls w/
2 coats of epoxy today

Jim Campbell

(30)

MWH will receive 900 gal. poly tank tomorrow. Will install next week.

then transfer 900 gal diluted Sulfuric acid to new tank and recycle/rouse remainder off site.

Look Ahead Schedule

- operate GWTP & ISUE systems
- Chem Ox injections
- blower shed (amstrang) wiring
- SBPA asphalt cover
- Thormax 1 delivery & install
- Access pathways
- GW sampling 9/20

H&S Look Ahead

Chem Ox tailgate mfg

Asphalt Cap " " to include
Truck drivers

ONCA elect. deenergized during
asphalt work

OFA Auxiliary blower shed of air
Bees nest at shed

Crane lift for thormax 1

Pre Pre-Final Inspection

Being conducted today

Next mtg 9/9/04 at 10 AM

Done @ 10:45

JM Campbell

(31)

7 Sept 04

0715 Arrive at Griffith Air Port

Clear Cool 59°F Calm

0720 Walsh & Kelly power delivered
to site of Mateon Test pad at
Griffith air port

0730 MWH staff provided various
W&K and Wilder H&S and QC plan
and Work plan documents
Personal at Airport

- Rich McCerrill MWH

- Amy Clare MWH

- Larry Campbell BUSPC

Various Coast personnel & mgrs W&K

- Geoffrey Rowe, Abatech Inc 267 261 8481

0810 Photo 63-19 Looking N at W&K
roller preparing test pad base.

0819 Photo 63-20 Looking SW at first
truck load of Mateon asphalt being
dumped into pour

0820 Photo 63-21 Looking S at first
pass of Mateon paving

0824 Photo 63-22 Looking S at placement
of asphalt

0827 photo 63-23 Looking N at roller
compacting asphalt

JM Campbell

(32)

- 0835 Photo 63-24 Looking N at
Jm ~~Nuclear~~ densometer checking
density of compacted asphalt
- 0840 Photo 63-25 Looking N at
rubber-tired roller compacting
Asphalt
- 0841 Photo 63-26 Looking NW showing
"roughened" surface resulting
from asphalt sticking to rubber tires
- 0845 Photo 63-27 Looking NW at
paver preparing to place 2nd pass.
- 0848 Photo 64-01 Looking SW showing
spraying of soap/water/oil ^{mixture} on rubber
tires to minimize picking up
asphalt on tires.
- 0854 Photo 64-02 Looking SW at
Dr. Rowe taking temp of
placed asphalt
- 0902 Photo 64-03 Looking S at
completed 2nd pass asphalt placement
Note Rattling from rubber tired
roller
- 0900 Completed placement of Asphalt
- 0926 Photo 64-04 Looking SW at
Dr. Rowe marking test locations
- Jm Campbell

33

- 0956 Photo 64-05 Doubling Not
smaller steel-wheeled roller compacting
& smoothing surface
1000 Go to ACS site
Personnel on site today
Lee Crosby MWH
Rick MacCroll MWH
Tim Kirkland Austgen
Milt Mesardi MWH
Pat Turina Wilder
Terry Thompson "
Geathy Rowe Abatech
Larry Campbell BNSF
1030 Walked ONCA SBRA cover area
to assess paving operations
1100 Returned to Griffiths AP to review
test pad. Will continue to roll
test pad surface. Will take core
samples later in day to measure
density.
1130 Left Site for day

~~Jim Campbell~~

(34)

8 Sept 04

0735 Arrive onsite - Clear, Calm

Cool 60°F

Personnel onsite

Rich McConnell Muff

Lee Orosz "

Amy Clore "

Matt Mesarch "

Rob Niessen Ryan

Aaron Butler PSR End.

Kenny Deane " "

Robt. Duncan Walsh & Kelly

George Wallischlaeger "

Matt Aquino "

Kenny Williams "

Keith Vanderwoude "

Michael Benko "

John Straka "

Randy Ditch "

J Dempster (?) "

Scott Siedermer "

Dano Grimmer "

Robert Grotter "

Jim Parker "

Jeff Tompstra "

Robert Perez Jr -"

Jim Campbell

(35)

Terry Davis W&K

Greg Hallmen "

Kimberly G Bruder "

Dean Ols "

Martin Knip "

Gary Schreiber Isotec

Sean Collins "

Roger Roiersen "

Pat Turing Wilder

Terry Thompson "

Graft Rowe Abatech

Larry Campbell BUS PC

Todd Lewis Muff

Kevin S'Neal Isotec
Tim Vinkland Austgen
Brian Orbee Trugreen Chamlain
Robt Cox Austgen0720 Lee Orosz conducted Safety
Briefing of above personnel

0740 Disc. w/ Wilder personnel - Core

Testing of test pad were successful. Plan
to take additional samples today & will
calibrate densimeter0800 Visit Chemox injection site. Work
not started yet. Waiting for residents
to leave home for the day.0815 Visit test pad at airport.
Have marked locations for
additional core samples

Jim Campbell

(36)

- 0855 Photo 64-06 Looking NW
at walk spraying edges of
conc. pads to adhere to asphalt
- 0900 Photo 64-07 Looking SW
at first pass of asphalt being
placed in SBPA
- 0906 Photo 64-08 Looking SW
at Truck dumping asphalt
into paver
- 0907 Photo 64-09 Looking SE
at truck spraying herbicide
on gravel
- 0914 Photo 64-10 Looking NW at
paver starting pass at SW edge
of SBPA cap near RR tracks
paving upslope.
- 0919 Photo 64-11 Looking NE at
L. side of paver starting
another pass at edge of cover
- 0930 Photo 64-12 Looking SW at
paving near ^{SW} catch basin pad
- 0931 Photo 64-13 Looking N at
laborer spreading asphalt
around catch basin pad
- 0932 Photo 64-14 Looking W

Jim Campbell

* 0940 Photo 64-15 Looking N at
paver placing first E-W panel. Upslope
panels in foreground.

(37)

- at roller making first pass on
placed asphalt
- 0937 Photo 64-15 Looking E at first
E-W panel joining starting upslope panels
- 0947 Photo 64-16 Looking NE at
laborer filling in around catch basin pad.
- 0954 Photo 64-17^{18th} Looking N at
laborer filling in around catch basin pad
- 1003 Photo 64-18^{19th} Looking NW at
laborer compacting asphalt around
catch basin pad with plate vibratory
Compactor
- 1006 Photo 64-19^{20th} Looking W at paver
placing E-W panel at top of initial
N-S upslope panels
- 1018 Photo 64-20^{21st} Looking NW at various
compactors rolling/compacting asphalt
- 1022 Photo 64-21^{22nd} Looking NW at paver
placing asphalt around SVE 79 pad.
- 1032 Photo 64-22^{23rd} Looking SE^{SW} at paver
placing asphalt around SVE 71 pad
- 1042 Photo 64-23^{24th} Looking W at last
E-W panel on W end of SBPA today
will make cold joint here tomorrow
Temp as placed 330°F

Jim Campbell

(38)

- 1050 Photo 64-24^{25 Jan} Looking W
at asphalt cap on ~~SE~~^{SW} corner
of SBPA
- 1056 Photo 64-25^{26 Jan} Looking at
Trans Tech asphalt density gauge
Model 300, w/ asphalt core from
Test pad placed yesterday
- 1107 Photo 64-26^{27 Jan} Looking S at
paver placing ~~NS~~^{NS} road up slope
- 1115 Photo 64-27^{28 Jan} Looking E at
old asphalt scraped off gravel
so not interpreted in pavement [Photo didn't print]
- 1149 Photo 65-01 Looking NW at
new poly sulfonate acid tank
placed in secondary confinement
- 1152 Photo 65-02 Looking E at
SBPA Final Asphalt Cap placed
so far today
- 1200 Visited Chomox injection site
Matt indicated 55 points completed to date
7 completed today
- 1211 Photo 65-03 Looking N at
PSA installing new inj. point & Isotac
Injecting in 3 points at same time

JM Campbell

39

- 1222 Photo 65-04^{29 Jan} Looking E
at W&K drilling core from test
pad at airport
- 1231 Photo 65-05^{30 Jan} Looking N at W&K
attempting to remove core from bit
Difficult to remove because of high
asphalt content of mix.
- 1235 Left site for day

~~JM Campbell~~

(40)

9 Sept 04

0830 Arrive onsite - Cloudy

Calm Cool 68°F

Personnel onsite

Rich McCarroll MWK Lee Orosz

John Straka W&K Kenny Williams

Scott Siehlmann " Tony Daers

Randy Dittman " Dean Ols

Robt. Perez " Keith Vanderwude

Kimberly Buder " Martin Knip

Jim Parker " Doug Grimmer

Jeff Terstra " Robt Grotter

Jim Terpstra " Dan Rice

Paul Mantal " Greg Hoffman

Robt. Duncan " Matt Aquino

Geoff Rowe Abatech

Amy Clare MWK Matt Mesarch

Rob Nielson Ryan Dale Hinkel

Pat Turina Wilder Terry Thompson

Tim Kirkland Austgen

Aarm Buller PSA Kenny Dean

Roger Peresam Isotec Sean Collins

Kevin O'neal " Gary Schreiber

Tracy Bevil W&K

Larry Camphou BUSK

Pete Vogt MWK

Jim Camphou

(41)

Rob Adams MWK

0840 Lee Orosz reported that tonight
H&S Mtg was held this morning prior
to work - no problems to discuss0845 Photo 65-08^{06 time} Looking E showing
paving completed yesterday0846 Photo 65-06^{07 time} Looking E at
paving ops on N side of SBPA cap0850 Photo 65-07^{08 time} Looking N showing
wood forms for new concrete pad
for new knockout tank to be installed
near Duck Thruway 10910 Photo 65-08^{09 time} Looking W showing
2" thin lift (R) and milled edge
which will be used to make cold joint0914 Photo 65-09^{10 time} Looking SE at
paving near catch basin on N edge.0919 Photo 65-10^{11 time} Looking SW at roller
near catch basin pad & paving along N edge.0946 Photo 65-11^{12 time} Looking E at Spray
Truck spraying asphalt tack coat onto
cold joint

Jim Camphou

(42)

1000 Construction Mtg.

1050 See notes on pg 44-48

1102 Photo 65-¹³~~12~~ Looking N at
Ryan placing concrete in forms
for new knockout TK. Foundation

1134 Photo 65-¹⁴~~13~~ Looking W at
paving on W end of SBPA cover.
Note Teck coat asphalt on L
to place cold joint panel

1150 Lunch

1315 Photo 65-¹⁵~~14~~ Looking E at
Completed asphalt panels in W
end of SBPA cover. Photo of
cold joint paving (new on L
old on R).

1320 Photo 65-¹⁶~~15~~ Looking E at
starter panels in SE corner
of SBPA cap.

1324 Photo 65-¹⁷~~16~~ Looking NE showing
paver receiving load of asphalt so
truck can dump w/o hitting
overhead pipes. Will place AC
50' behind paver.

Jm Campbell

(43)

1328 Photo 65-¹⁸~~17~~ Looking ~~At~~ NW
showing paver placing starter panel
at SE corner. Note truck far
forward past overhead pipes.

1338 Photo 65-¹⁹~~18~~ Looking E at
paver placing E-W tie panel at top
of N-S starter panels

1345 Photo 65-²⁰~~19~~ Looking N showing
laborers filling in small area between
well pad and edge by hand

1354 Photo 65-²¹~~20~~ Looking W showing
paver placing AC W of well pad

1400 Disc. w/ Dr. Rowe re results
of QC Testing. He was v. pleased
with results to date. Testing of
panels placed yesterday was nearly
complete. Density test results ranged
from 0.8 to 2.2% air voids,
averaging about 1.5%. Criteria is
 $\leq 3\%$ air voids

1420 Visited Chemox injection site
Had completed 17 points today -
Plan to add 4th pump tomorrow -
to see if can increase production to
 > 22 points per day

Jm Campbell

(44)

CONSTRUCTION MTG NOTES

1000

Personnel

- Pete Vagt, Rich McCurrell,
 & Lee Cross - MWH & Rob Adams
- Larry Campbell BUSEC

via Phone

Rob Adams (instrukt), Todd Lewis,
 Chad Smith - MWH

Kevin Adler - EPA

Aaron Potts - Environ

H&S

Has been much activity at
 site but no H&S issues - Has
 H&S tailgate mtg daily, Welsh &
 Kelly had backhoe w/ no backup
 alarm. It was fixed prior to ops.
 MWH has truck spotter directing
 truck traffic on cap.

- ACS bromine delivery scheduled
 for Friday is delayed till next wk.
- MWH provided H&S Plan addenda
 for air monitoring during sampling
 of SVE wells.

GWTP

Operating at 20 gpm. Reduced
 because ONCA wells de-energized
 to allow paving. Performed Maint.
 on filter press and polymer pump.

JM Campbell

(45)

USFlar placed epoxy coating on
 acid tank secondary containment
 floor & walls. MWH received and
 manually placed a new 900 gal. sulfuric
 acid poly tank on Tuesday. Not yet
 connected. Will pump 900 gal of
 diluted acid into new tank from temp
 storage tanks. Remainder will be
 shipped offsite for recycle/reuse.

Thermox 2 Reactivated last week &
 working OK. Don't know when it went
 down

Thermox 1 Heat exchanger arrived 11 AM
 yesterday. Used Fork Lift to unload
 Will install next Monday. Ryan on-
 site pouring 5'x5' concrete pad for
 New Knockout tank near Thermox 1
 Will connect new heat exchanger next
 week. Possibly startup Thursday

ISVE ONCA SBPA Not operating because
 power shut off to ONCA so can power cap.
 SBPA ISVE working as usual. Asst Gen
 to start electrical wiring of new
 auxiliary blower next week. Expect
 7-10 working days to complete

JM Campbell

(46)

Expect startup of auxiliary blower in 2 wks.

SBPA Final Cover W&K placed asphalt test pad at Griffiths Airport on Tuesday. Representatives of Wildor Const. were present. Also Dr Rowe the independent QC inspector. After placement, 7 core samples were collected & tested. All passed requirements re density & air voids. W&K began paving SBPA cap on Wednesday. Expect to be completed Friday afternoon.

Prior to paving, MWH had TrueGreen apply herbicide to gravel cap to minimize potential for plants to grow up through asphalt.

Chemox injections. 70 points have been completed thru yesterday. Are about 1.5 day behind schedule because of non operational drill rig on 1st day and bad weather last Friday. Have noticed limited "daylighting" of peroxide solution around injection rods. Currently working 10-day

Jim Campbell

(47)

on - 4 day off cycle. May complete after 9/24 scheduled date. Goal is 20 wks/day. Isotec to start using a 4th injection pump next week.

MWH plans a H&S luncheon next Tues to bolster morale of Chemox crews.

Welland Paths Austin to start laying ground cover next week (Mon).

Look Ahead Activities

- SBPA asphalt placement
- Chemox injections
- Thormax heat exchanger install
- Auxiliary OFCA blower connection
- Transfer acid to tank & ship off Yemassee
- Access path placement
- Semi Annual G&W Sampling
- Pre Final Inspection w/ EPA

Look Ahead H&S

- Crane lift for heat exchanger & knockout tank on Monday
- Chemox injection. Will be working closer to road.
- Complete SBPA paving

Other Local news reporter wants to take photos today of Chemox work.

Jim Campbell

(48)

Mutt & EPA will allow photos of
Chemox work

Next Mtg - Next Thurs 9/11/86
at 10 AM

1050 Mtg ended

1430 Left Site for day

Jim Campbell

49

13 Sept 04

0800 Arrive on site. clear

Cal/m. Cool 63°F

Personnel On Site

Lee Orosz MWB

Rich McCallall "

Terry Frisk Ryan

Mutt Mesarch MWB

Roger Ruchon LSOTEC

Gary Schenlan "

Sean Collins "

Kevin O'Neal "

Doyle Garding Ryan

Bergard Buxton Austgen

Don Rutkowski "

Tim Kirkland "

Mike Tappi Central Crane

Armin Butler PSA Envtl.

Kenny Doane " "

Joe Rayko Austgen

Larry Campbell BUSPC

0830 Disc w/ Lee Orosz. Plan to lift
& place new knockout tank & new
heat exchanger this morning

Jim Campbell

50

- 0856 Photo 65-21^{22 Tue} Looking SW at rigging of new knockout tank
- 0900 Photo 65-22^{23 Tue} Looking SE at new Thermox I heat exchanger
- 0913 Photo 65-23^{24 Tue} Looking W as knockout tank being prepared to be lowered into place
- 0917 Photo 65-24^{25 Tue} Looking NE trying to lower knockout tank into position.
- 0918 Photo 65-25^{26 Tue} Looking N as knockout tank lowered into position
- 0925 Photo 65-26^{27 Tue} Looking N at knockout tank sitting on concrete pad [Photo did not print]
- 1030 Central Crane & Ryan attempted to place new Thermox I heat exchanger into position. Found it was not constructed to sit on existing steel platform and mate to remainder of Thermox. Relocated heat exchanger outside fence area to assess plans.
- 1040 Photo 66-01 Looking E at N side of SBPA cap paving
- 1041 Photo 66-02 Looking E at

M Campbell

51

- S. edge of SBPA cap paving.
- 1050 Rich McCormil indicated SBPA cap paving was completed mid-afternoon on Friday Sept. 10. McCormil also reported that 900 gal of diluted sulfuric acid was transferred to new tank on Friday Sept. 10. Estm. have 3200 gal diluted acid to be shipped off site this week.
- 1100 Lee reported Austgen worked over last weekend placing wood chips in MW across wetland pathway.
- 1117 Photo 66-03 Looking NW on access path to MW10 where large pile of wood chips had been.
- 1120 Photo 66-04 Looking N at edge of wood chips on pathway showing underlying black filter fabric
- 1125 Photo 66-05 Looking NW at access path to MW 33, 30 & 51 and branch path to other wells (an L)
- 1130 Photo 66-06 Looking W at E end of SBPA cap paving
- 1132 Visit OFCA blower shed & observed Austgen preparing to install elect.

M Campbell

(52)

And control wiring to new auxiliary
blower shed

1145 Photo 66-67 Looking S at
Isotec tanks & pumps injecting
at Wedge of yard and along roads

1146 Photo 66-68 Looking S at
PSA Enul decanning rods after
injecting on E side of Cellar Rd

1148 Matt Mesard reported they
completed 154 points thru Sunday
& have completed 9 points today

1200 Left site for Day

~~Jim Campbell~~

(53)

16 Sept 84

0900 Arrive Onsite Clear calm
Cool 67°F Rain last night

Personnel on site

Lee Cross MWH

Rich McConnell "

Rob Nielsen Ryan

Amy Clare MWH

Terry Frisk Ryan

Terrance Jones IES

Matt Mesard MWH

Don Rutkowski Austgen

Tim Kirkland "

Roger Reinson Isotec

Sean Collins "

Kevin O'Neal "

Gary Scherker "

Kenney Doane PSA

Aaron Butler "

Chad Smith MWH

Rick Adams "

Pete Vaght "

Todd Lewis "

Larry Campbell BUSPC

Mike Chenault MWH

Jim Campbell

(54)

- 0922 Photo 66-09 Looking N at new Knockout tank sitting in place - but not connected
- 0923 Photo 66-10 Looking N at Ryan Connecting new heat exchanger to Thermo 1, Note Steel beam cut away at base to accommodate new heat exchanger
- 0924 Photo 66-11 Looking E at 4" 3" gap between new heat exchanger and existing vapor piping
- 0926 Photo 66-12 Looking NE showing misalignment of new heat exchanger (L) and existing blower connection (R)
- 0933 Photo 66-13 Looking at Corroded packing from Global Thermo 2
- 0933 Photo 66-14 Looking at clean non-corroded packing from Thermo 2
- 0934 Photo 66-15 Looking up at Austgen removing packing from Thermo 2 using air hammer
- 0945 Photo 66-16 Looking S at 'residue' across SBPA Cover
- 0947 Photo 66-17 Looking W at completed SBPA AC cover - note small "birdbaths"
- - - 10.00

(55)

- of ponded water
- 0950 Photo 66-18 Looking W at location of cores taken of completed AC cover. Core holes have been filled in asphalt.
- 0951 Photo 66-19 Looking W at small "birdbaths" near AS 4
- 0953 Photo 66-20 Looking SE at location of E-W & N-S Cold joints in cover
- 0954 Photo 66-21 Looking W at center storm drain on S. side of SBPA. Note ponded water off the cap.
- 1000 Construction Meeting
- 1105 See notes on p 956-61
- 1120 Photo 66-22 Looking W at row of Chem Ox injection points on Redox Rd.
- 1125 Photo 66-23 Looking ~~SW~~ N into ONCA Auxiliary blower shed at Austgen pulling wires in conduit
- 1130 Visited ONCA cover in MWH, Barbara Mangle & Mark Travers
- 1150 Photo 66-24 Looking S. at Austgen removing packing from Thermo 2
- 1200 Photo 66-25 Looking E at SBPA Cap note new yellow chain fencing to protect well,

Wm Marshall

(56)

16 Sept Construction Mtg Notes1000 Personnel in mtg

Lee Orosz, Rob Adams, Rich
McCarroll, Todd Lewis, Pete
Vagt & Matt Marsch - MWH
Prabhakar Kasarabada - IDEM

Mark Travers - Environ

Larry Campbell - BUSPC

via Phone:

Chris Daly - MWH

Kevin Adler - EPA

Barbara Mangle arrived late.

H&S No issues this last wk. Crane
lifts on Mon & Tues. went well.
MWH held H&S lunch for contractors
Tues to review safety issues

Chemox injections - Thru yesterday,
have completed 218 inject points
w/ 162 remaining (54 in yard at
1002 Radar). Expect to complete in
yard by next Tues. Isotec received
4th pump yesterday, but hasn't
started using yet. Will need water
supply to work on W side of Colfax
Ave next week. Plan to repair

Jim Campbell

(57)

damage to yard Fri. & Monday.

Progress is slightly > 20/day so are
making up some of 1st week losses.

When resume next Monday 9-20-04
will continue work till completed -
even if work thru weekend.

GWTP - Was running @ 20-25 gpm.

Down today because of rain last night.

Austgen on call to troubleshoot problem.

GWTP was down Tues during crane lift
of Thermox 1 heat exchanger. Have

started using Cat ox while Thermox 2
down. Will sample Cat ox today.

Sulfuric Acid - 900 gal diluted acid
was transferred into new poly tank on
Monday 9/13/04. Acid from 50 gal
drum added to tank & then disposed.

Now pumping acid from 900 gal tank.

Thermox 2 - Was shut down Monday
for crane lift. Restarted but shut
down again for 2nd crane lift.

Hard washed packing material
yesterday. Still having much calcium
buildup on packing. Austgen removing
packing from interior of Thermox 2.

Jim Campbell

(58)

Thermox 1 - Lifted new Thermox 1 heat exchanger on Monday but would not fit in place. New unit has legs rather than flat bottom to sit on steel frame. Also unit is $\approx 3"$ too short to mate w/ various flanges of ~~the~~^{the} Thermox 1 piping. Global is manufacturing special flanges to allow connections. Hope to have delivery & installation by Friday. Hope to startup Thermox 1 next week - at least using air.

ISUE Systems - Both systems have been down because of SBPA paving and OFCA blower (auxiliary) work and because Thermox 2 was down.

OFCA Auxiliary Blower - Ausgen has installed conduit for new blower, starting to pull conductors today. Hope to have complete and operational by next Tues.

ONCA - results of SBPA ISUE investigation of wells. Clean & sediment from new ASS + used air compressor to test ASS - did get flow into

Jim Campbell

(59)

ground. At new SUE 59 tried to pull vapors. Applied 50" water vacuum but got no measurable flow.

SBPA Final Cover - Walshot Kelly completed placement of Matcon asphalt final cover last Friday. Wdk drilled two core samples Wednesday 9-15-04 on E portion of final cover. These will be laboratory tested for density and permeability. Wdk will have area surveyed tomorrow to confirm thickness. Mwit plans to do some gravel grading & asphalt placement at perimeter to minimize ponding of water at edges. May also add curbs to direct sloping flow to drains.

Some small areas on top of surface have "birdbath" depressions that allow $1/2"$ water to pond on cover. Mwit will develop a plan to possibly add additional asphalt to fill these depressions.

ACS has asked about SBPA access plan. Mwit may paint stripes on cover.

Jim Campbell

(60)

Wetland Access Paths - Austgen has placed $\approx 90\%$ of wood chips in access paths - except for 30-40' section that is too wet. Hope to complete this weekend.

Monitor Well Maintenance - MWs started redevelopment and MW maintenance activities today + tomorrow. Will start semi-annual

~~for~~ MW sampling Monday.

Look Ahead Schedule

- Restart GWT
- Complete maintenance of Thermax 2 & restart
- OFCA auxiliary ISVE blower - complete wiring & startup
- Thermax 1 - complete installation of heat exchanger & start up
- Chem Ox injections - complete next wk
- Ship excess sulfuric acid off site
- Conduct Pre Final Insp. next wk.

Pre Final Insp - to focus on construction completion status of various elements of the RA

Next Mtg 9/23 @ 10 AM - Pre Final to follow.

~~Next Mtg time~~

Jm Campbell

(61)

Public meeting possibly on Oct 13 (afternoon) or Oct 18 (evening)

- Kevin expects Explanation of Significant Differences (ESD) document to be signed today. The prelim Close out Rpt (PCOR) will be signed after completion of Chem Ox injections (1st round)

1105 Mtg over

1230 Left site for day

Jm Campbell

62 21 Sept 04

0940 Arrive onsite - Clear

Calm warm 67°F

Personnel on site

Lee Orosz MWH

Amy Clore "

Matt Mosarch "

Chad Smith "

Terrance Jones IES

Ryan Lancaster "

Aaron Butler PSA

Roger Riverson ISOTEC

Kevin O'Neal "

Gary Schreiber "

Don Rutkowski Austgen

Terry Frisk Ryan

Tim Kirkland Austgen

Rob Nielsson Ryan

Robert Cox Austgen

Larry Campbell BUSK

on 9-17-04 Area Survey onsite (1)

on 9-20-04 Torranga onsite (2)

" " WQK (1)

0945 Lee Orosz reported that diluted
Sulfuric acid was pumped into transport

A. D. 111

63

Truck & removed from site yesterday
Earlier today Temporary acid storage tanks
were removed from GWTP

0954 Photo 66-26 Photo looking S at
GWTP after removal of temp. acid
storage tanks & secondary containment.
Note rust-colored stain on floor near
drain where acid had leaked from
secondary containment.

1020 Photo 66-27 Looking E at Thorax 1
heat exchanger showing sleeves to fill
3" gap in vapor connection between
heat exchanger & piping

1025 Photo 67-01 Looking N at Ryan
installing piping for new knockout
tank near Thorax 1

1038 Photo 67-02 Looking NE at MWH
personnel leaving MW23 after sampling.

1112 Photo 67-03 Looking N at ISOTEC
Tanks & pumps in yard at 1002 Radar Rd.

1113 Photo 67-04 Looking N at last 3
injection points in yard. Will be
moving to W. side of Calfax Ave.

1115 Matt said done 270 points thru
Monday. Have 110 + 10 more to go.

Ann Campbell

(64)

- 1123 Photo 67-05 Looking E of ISOTEC purging sampling point midway between two injection points
- 1124 Photo 67-06 Looking E at ISOTEC collecting GW sample from intermediate sampling point to Test for peroxide in GW
- 1127 Photo 67-07 looking SW at ISOTEC field filtering GW sample. Then added Ammonium Molybdate and sulfite reagent. Color changed to dark blue
- 1128 Photo 67-08 Looking SW at ISOTEC transferring solution to flask. Test indicates 5 ppm peroxide (up from 0.6 ppm at beginning. Will take another sample when injections have been completed.
- 1149 Photo 67-09 Looking W at PSA removing probe rod after injections completed.
- 1325 Photo 67-10 Looking W at MWH removing peristaltic pump from MW32
- 1351 Photo 67-11 Looking E at MWH purging MW 31 & sampling parameters

(65)

- 1411 Photo 67-12 Looking E showing New ONCA SBPA fence Skunk Arms (yellow)
- 1412 Photo 67-13 Looking N showing cones used to identify roadway across SBPA cover
- 1420 Photo 67-14 Looking N showing PSA rig & 2 injection points on W side of Colfax Ave.
- 1422 Matt reported that a City water hose broke & released city water onto Colfax. Motorist were concerned it was leaking chemicals & called Griffiths fire dept who responded to site, checked pH of water, & departed.
- 1430 Photo 67-15 Looking NE showing puddle of city water at edge of Colfax Ave.
- 1435 Left Site for Day

Don Campbell

(66)

23 Sept 04

0900 Arrive on site, Clear

Calm, Cool 67°F

Personnel on site

Matt Mesaroh MWI

Aaron Butler PSA

Jake Butler PSA

Kevin O'Neal ISOTEC

Roger Reiserer "

Gary Schreiber "

Sean Collins "

Tim Kirkland Austgen

Amy Clark MWI

Todd Lewis "

Chad Smith "

Rob Adams "

Pete Vast "

Larry Campbell BUSPC

Mark Travers Environ

Prabhakar IDEM

Kevin Adler USEPA

M Campbell

(67)

0925 Photo 67-16 Looking N showing
fully installed knockout tank at
GWTP near Thormax 1 heat exchanger0926 Photo 67-17 Looking N showing
fully installed & connected heat exchanger
on Thormax 10943 Photo 67-18 Looking S at PSA
pulling injection rod on W side of
Colfax Ave. Also ISOTEC injecting
into other points

1000 Construction Meeting

1100 See pg 68-72 for minutes

1100 Start Pre Final Inspection (See pg 72-73)
Review MWI list of Cont. Items

1110 Visit ONCA Cover

1115 Photo 67-19 Looking NE at
EPA, IDEM, MWI & ACS personnel
inspecting ONCA final cover1130 Visited Chemox Injection Site
to inspect operations.1200 Return to trash trailer to discuss
results of Pre Final Inspection

1230 Leave for Lunch

1330 Return to Site

1345 Discussion w/ EPA, IDEM, MWI re

M Campbell

(68)

ongoing future activities at
site

1415 Left Site for day

1000 Construction mtg Notes

Attendees

onsite: Pete Vagt, Todd Lewis, Rob
Adams, Matt ^{Meserch} ~~Mersch~~ - MWH
Prabhakar Kasarabada - IDEM

Kevin Adler - EPA

Mark Travers - Environ

Tom Froman - ACS

Larry Campbell - BUSF

Phone: Jon Pohl, Chris Daly - MWH

HHS No safety issues last week. It had
spilled city water near Colfax
as part of Chemex injections. Local
persons had call Fire Dept, who
responded, but concluded there was
no hazard associated therewith.
Fire Dept. indicated MWH should
have a Tier 2 form for such ops.
Later MWH determined Tier 2
form was NOT needed.

Ann Anderson

(69)

Chemex - injections are completed
in yard of 1002 Dorset Rd. and
area E side of Colfax Ave. Thru
Yesterday evening had completed
313 points of 390 planned (note 10
additional points). Expect to complete
Saturday (77 left). ISOTEC is monitoring
points midway between injection points
to check peroxide conc in GW.
MWH has been monitoring air quality
in breathing zone but has found
no concentrations. MWH measured
temp at GW after injection and
found GW Temp increased from 25°C
to 40°C.

Chemex injections have not been
made in area of Colfax Ave. MWH
will evaluate to do so in 2nd
application in Spring 2005. Problems -
need to close 1 lane of traffic &
or work at night.

GW Monitoring Have sampled 14 of 28
Scheduled GW wells. Expect to
complete Monday - then start residential
well sampling

Ann Anderson

(70)

shipped off extra acid on Monday
GWTP - Running at 25 gpm. Has
 been down for regular maintenance.
 Thormax 2 Scrubber restarting - then
 GWTP can be started. Have found
 that pumps in MW56 and MW10C
 are not working. MWH checking
 pump controllers. Plan carbon
 changeout next week.

Thormax 2 - Completed cleaning padding
 material & then acid washing. Restarted
 on Monday & Tues, but down on Wed.
 Checking into problems

Thormax 1 - Heat exchanger installed
 last week. MWH / Mustang began
 startup procedure but got various
 alarms. Currently working through
 startup

ISVE-OFCA Auxiliary blower shed
 is ~95% wired & plumbed. Waiting
 on motor controllers (due next wk)
 then will start aux. blower. Also
 need Thormax 1 & 2 online

ISVE-GNCA - wells working when
 thormax is operating. Collecting
 product from some wells

Ann Remondino

(71)

Evaluation of GNCA sampling &
 overdrilling report is being reviewed.
 Will be sent to Agency's next week.

Access Pathway - Spreading of wood
 chips is complete for all paths.

SBPA Cover - Some future work to
 place curbs, etc to direct runoff to
 catchbasins. Will stripe (paint)
 roadway area on cover. ACS
 will be allowed to drive light
 vehicles on cover. Survey of
 final surface area & elevations was
 performed last Friday for pay
 quantities and "as-builts".

Public Complaint - Kevin mentioned that
 local resident had complained of
 noise from treatment system. MWH
 to contact resident

Public Mtg - re const. compl. to
 be held Oct 20 at City Bldg on
 Colfax possibly 1:30 (or 3pm) to 5pm
 Include presentation & bus tour
 of site & GWTP.

Look Ahead - continue ops of
 GWTP & ISVE systems

Ann Remondino

(72)

Complete Chemox injections

Start auxiliary blower in OFCA

Start thermox 1

Restart thermox 2 & GWTP

SBPA Cover - place curbs & paving

Complete GW & Res well sampling

Finalize construction document activities

HHS Look Ahead

- Startup of Auxiliary blower

- " " of Thermox 1

- Concern about rushing to complete
Chemox injections

Next Mtg - Tues Oct 7 @ 10AM

Mtg over 1100 hrs

1100 Pre Final Inspection

Conducted by Kevin Adler

Same personnel as const mtg
except not Tom Frohman.

MWH presented a document identifying
Consent Decree Construction Items
(Appendix G) and status of their
completion & documentation. Only
not completed items included

- SBPA Cover

L... ..

(73)

• Chemox injections

Kevin Adler & others visited SBPA

Cover to observe its status &
condition.

Then attendees visited Chemox
injection site to observe opns

Rob Adams generated a "punch
list" of items to complete for
these and other construction items

1230 Pre Final Inspection Completed

~~Kevin Adler~~



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 62 Photo #21

Date: 08-26-04 Time: 1156

Photographer: Larry Campbell

Description: Photo facing west showing trailer-mounted tank of peroxide and mixing tanks for use with modified Fenton's reagent injection. Also, Port-A-Potty delivery in background.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 62 Photo #22

Date: 08-30-04 Time: 1211

Photographer: Larry Campbell

Description: Photo facing north showing Boart Longyear pushing ACS-SG-SP01 probe on west side of house at 1002 Reder Rd. to collect soil gas sample.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 62 Photo #23

Date: 08-30-04 Time: 1216

Photographer: Larry Campbell

Description: Photo facing north showing Boart Longyear inserting poly sampling tube into drill rods to collect soil gas sample.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 62 Photo #24

Date: 08-30-04 Time: 1234

Photographer: Larry Campbell

Description: Photo facing southwest at MWH purging vapor from sampling tubing. Rods were pushed to 8' bgs then withdrawn to 6' bgs.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 62 Photo #25
 Date: 08-30-04 Time: 1237
 Photographer: Larry Campbell
 Description: Photo facing southwest at MWH connecting sampling tubing to summa canister to collect soil gas sample.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 62 Photo #26
 Date: 08-30-04 Time: 1320
 Photographer: Larry Campbell
 Description: Photo facing northeast showing Boart Longyear deconning rods prior to next sampling location.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 62 Photo #27
 Date: 08-30-04 Time: 1343
 Photographer: Larry Campbell
 Description: Photo facing northeast showing Isotec mixing tank setup for modified Fenton's reagent injection. Filling tanks with water.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 63 Photo #1
 Date: 08-30-04 Time: 1530
 Photographer: Larry Campbell
 Description: Photo facing northeast showing Boart Longyear installing poly tubing into ACS-SG-SP02 soil gas probe.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #2

Date: 08-30-04 Time: 1537

Photographer: Larry Campbell

Description: Photo facing northeast showing MWH installing summa canister at second probe ACS-SG-SP02.

Site: American Chemical Service, Inc.

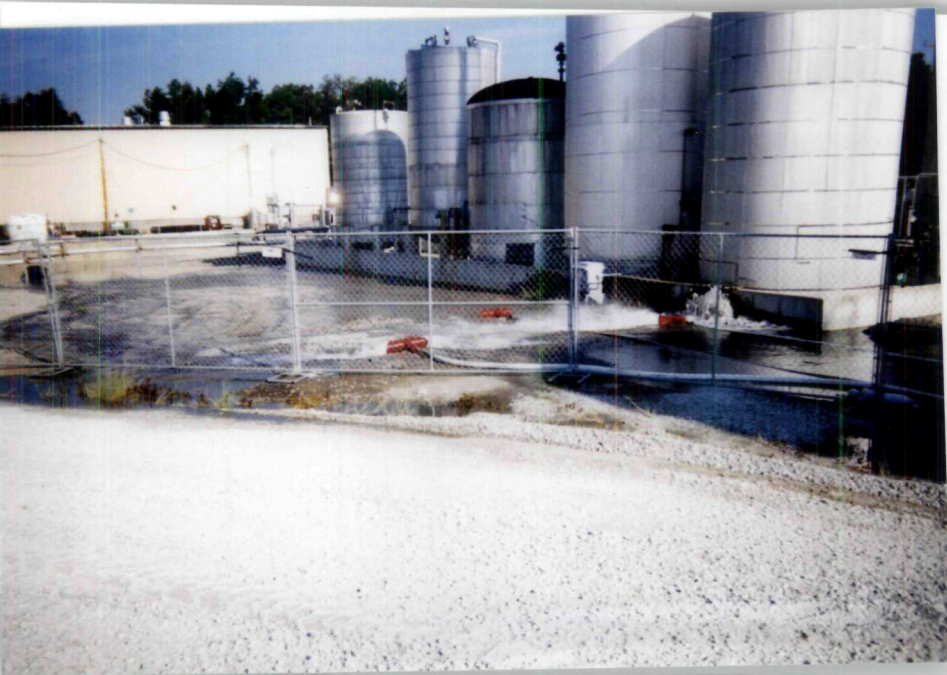
Proj. #: 46526

Roll: 63 Photo #3

Date: 09-02-04 Time: 0840

Photographer: Larry Campbell

Description: Photo facing northwest showing sulfuric acid secondary containment after application of first coat of epoxy coating.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #4

Date: 09-02-04 Time: 0856

Photographer: Larry Campbell

Description: Photo facing northwest showing area northwest of SBPA where effluent from ACS testing of fire water system is being discharged.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #5

Date: 09-02-04 Time: 0900

Photographer: Larry Campbell

Description: Photo facing northwest showing new concrete pad at the new well SVE59.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #6

Date: 09-02-04 Time: 0903

Photographer: Larry Campbell

Description: Photo facing northwest showing westernmost storm drain concrete pad on south side of SBPA.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #7

Date: 09-02-04 Time: 0906

Photographer: Larry Campbell

Description: Photo facing northwest showing center storm drain concrete pad on south side of SBPA.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #8

Date: 09-02-04 Time: 0908

Photographer: Larry Campbell

Description: Photo facing east showing Walsh & Kelly final grading of SBPA interim gravel cover near east perimeter.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #9

Date: 09-02-04 Time: 0912

Photographer: Larry Campbell

Description: Photo facing southwest showing new concrete pad at air sparge point AS5.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #10

Date: 09-02-04 Time: 0926

Photographer: Larry Campbell

Description: Photo facing northwest showing ISOTEC setup of tanks and pumps for injecting modified Fenton's reagent at 1002 Reder Rd.



Site: American Chemical Service, Inc.

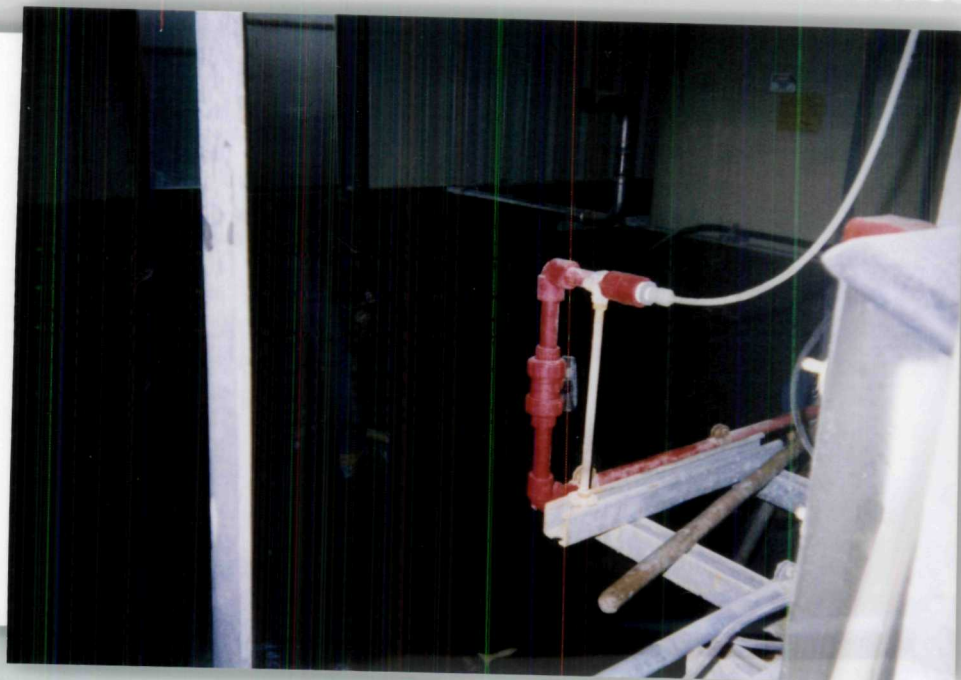
Proj. #: 46526

Roll: 63 Photo #11

Date: 09-02-04 Time: 0927

Photographer: Larry Campbell

Description: Photo facing southwest showing locations where injections have been completed (denoted with pink ribbons).



Site: American Chemical Service, Inc.

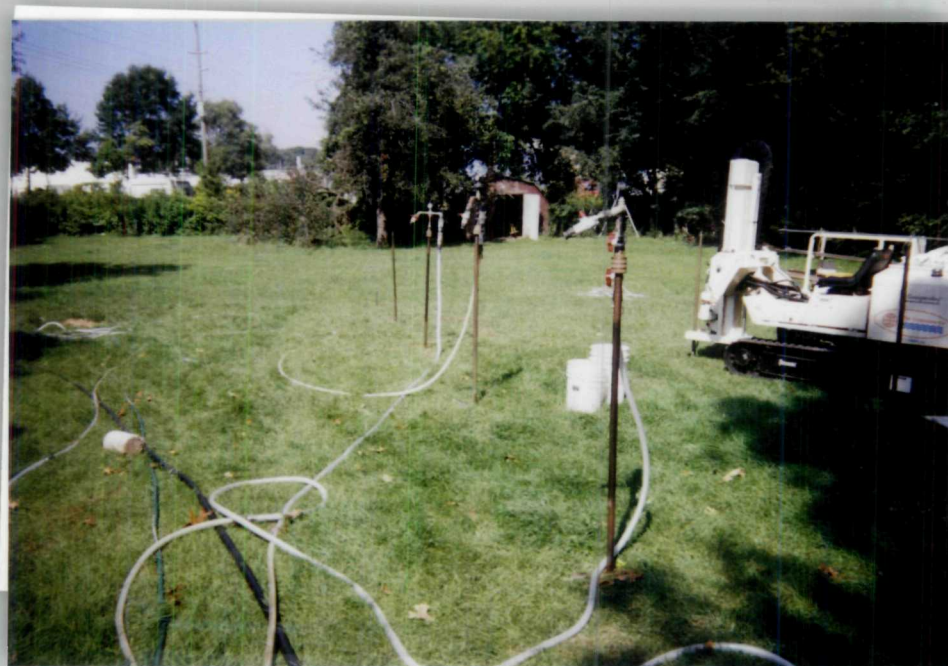
Proj. #: 46526

Roll: 63 Photo #12

Date: 09-02-04 Time: 1155

Photographer: Larry Campbell

Description: Photo facing northwest showing US Floor personnel applying second (final) epoxy coat to sulfuric acid tank enclosure.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #13

Date: 09-02-04 Time: 1418

Photographer: Larry Campbell

Description: Photo facing north showing ISOTEC injecting in three points simultaneously, with additional rods already in the ground.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #14

Date: 09-02-04 Time: 1425

Photographer: Larry Campbell

Description: Photo facing east showing PSA
Environmental pulling rod from completed
injection point and deconning rods (L).

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #15

Date: 06-16-04 Time: 1429

Photographer: Larry Campbell

Description: Photo facing south showing PSA backfilling
probe hole with bentonite pellets.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #16

Date: 09-02-04 Time: 1433

Photographer: Larry Campbell

Description: Photo facing north showing ISOTEC placing bentonite around injection point rod where injection fluids were coming to the surface.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #17

Date: 09-02-04 Time: 1452

Photographer: Larry Campbell

Description: Photo facing north showing PSA installing injection point rods.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #18

Date: 09-02-04 Time: 1615

Photographer: Larry Campbell

Description: Photo facing west showing PSA maneuvering rig via remote control and using mats to avoid damage to yard when turning rig.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #19

Date: 09-07-04 Time: 0810

Photographer: Larry Campbell

Description: Photo facing north showing Walsh & Kelly (W&K) roller preparing the asphalt concrete test pad base at the Griffith airport.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #20

Date: 09-07-04 Time: 0819

Photographer: Larry Campbell

Description: Photo facing southwest showing first truck load of MatCon asphalt being dumped into paver.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #21

Date: 09-07-04 Time: 0820

Photographer: Larry Campbell

Description: Photo facing south showing first panel of MatCon paving.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 63 Photo #22
 Date: 09-07-04 Time: 0824
 Photographer: Larry Campbell
 Description: Photo facing south showing placement of
 asphalt concrete in test pad.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 63 Photo #23
 Date: 09-07-04 Time: 0827
 Photographer: Larry Campbell
 Description: Photo facing north showing steel-drum
 roller compacting asphalt concrete in test
 pad.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #24

Date: 09-07-04 Time: 0835

Photographer: Larry Campbell

Description: Photo facing north showing density meter measuring density of compacted asphalt concrete.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #25

Date: 09-07-04 Time: 0840

Photographer: Larry Campbell

Description: Photo facing northwest showing rubber-tired roller compacting asphalt cement.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 63 Photo #26

Date: 09-07-04 Time: 0841

Photographer: Larry Campbell

Description: Photo facing northwest showing "roughened" surface resulting from asphalt sticking to rubber tires.



Site: American Chemical Service, Inc.

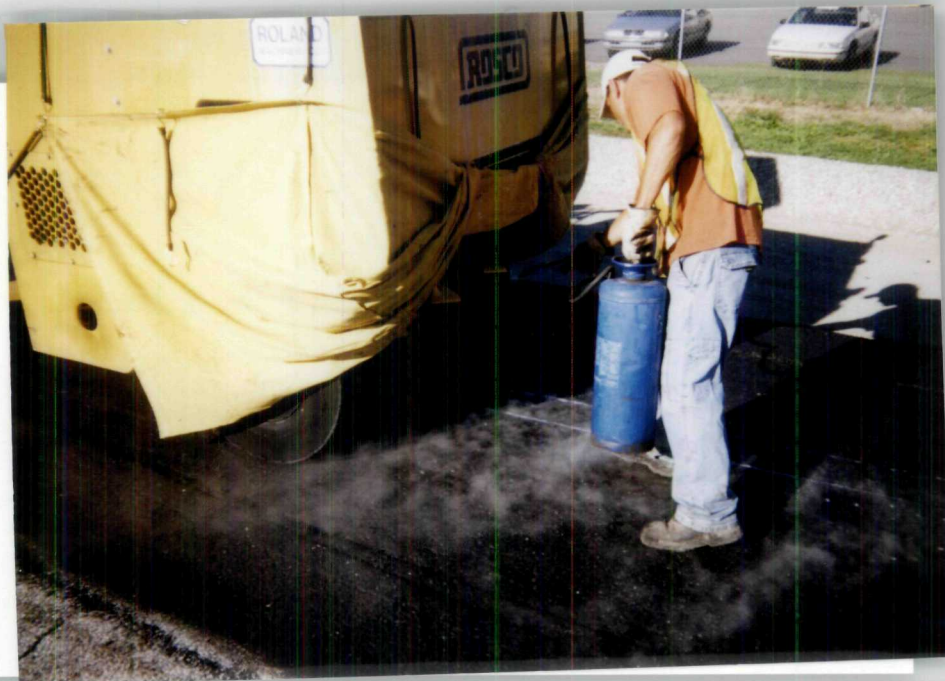
Proj. #: 46526

Roll: 63 Photo #27

Date: 09-07-04 Time: 0845

Photographer: Larry Campbell

Description: Photo facing northwest showing paver preparing to place second panel of asphalt concrete in test pad.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #1

Date: 09-07-04 Time: 0848

Photographer: Larry Campbell

Description: Photo facing southwest showing W&K spraying water/soap/oil mixture on rubber tires to minimize picking up of asphalt on tires.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #2

Date: 09-07-04 Time: 0854

Photographer: Larry Campbell

Description: Photo facing southwest showing Dr. Rowe taking temperature of placed asphalt concrete.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #3

Date: 09-07-04 Time: 0902

Photographer: Larry Campbell

Description: Photo facing south showing completed second panel of asphalt concrete. Note rutting from rubber tired roller.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #4

Date: 09-07-04 Time: 0926

Photographer: Larry Campbell

Description: Photo facing southwest showing Dr. Rowe marking test locations.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #5

Date: 09-07-04 Time: 0956

Photographer: Larry Campbell

Description: Photo facing north showing smaller steel drum roller compacting and smoothing asphalt concrete surface of test pad.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #6

Date: 09-08-04 Time: 0855

Photographer: Larry Campbell

Description: Photo facing northwest showing W&K spaying asphalt on edge of concrete pad so asphalt concrete will adhere to the concrete.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #7

Date: 09-08-04 Time: 0900

Photographer: Larry Campbell

Description: Photo facing southwest showing first panel of asphalt being placed in SBPA.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #8

Date: 09-08-04 Time: 0906

Photographer: Larry Campbell

Description: Photo facing southwest showing truck dumping asphalt concrete into paver.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #9

Date: 09-08-04 Time: 0907

Photographer: Larry Campbell

Description: Photo facing southeast showing Trugreen truck spraying herbicide on gravel to eliminate potential plant growth beneath asphalt concrete.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #10

Date: 09-08-04 Time: 0914

Photographer: Larry Campbell

Description: Photo facing northwest showing paver starting upslope pass at the southwest edge of SPBA cap near rail tracks.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #11

Date: 09-08-04 Time: 0919

Photographer: Larry Campbell

Description: Photo facing northeast showing left side of paver starting another pass at edge of SBPA final cover.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #12

Date: 09-08-04 Time: 0930

Photographer: Larry Campbell

Description: Photo facing southwest showing paver placing asphalt concrete adjacent to the southwestern catch basin pad.



Site: American Chemical Service, Inc.
 Proj. #: 46526

Roll: 64 Photo #13

Date: 09-08-04 Time: 0931

Photographer: Larry Campbell

Description: Photo facing north showing W&K laborer spreading and leveling asphalt concrete around catch basin pad.



Site: American Chemical Service, Inc.
 Proj. #: 46526

Roll: 64 Photo #14

Date: 09-08-04 Time: 0932

Photographer: Larry Campbell

Description: Photo facing west at steel drum roller making first compaction pass on the placed asphalt concrete. Note paver preparing to make an E-W pass at ends of N-S passes.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #15

Date: 06-16-04 Time: 0937

Photographer: Larry Campbell

Description: Photo facing east showing first E-W panel being placed to join the initial upslope N-S panels. Must keep alternating placement orientation to avoid "cold" joints.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #16

Date: 09-08-04 Time: 0940

Photographer: Larry Campbell

Description: Photo facing north showing paver placing first E-W panel. Initial upslope panels are in foreground.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #17

Date: 09-08-04 Time: 0947

Photographer: Larry Campbell

Description: Photo facing northeast showing laborer raking and leveling asphalt concrete around catch basin pad.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #18

Date: 09-08-04 Time: 0954

Photographer: Larry Campbell

Description: Photo facing northwest showing laborer raking and leveling asphalt concrete around catch basin pad. Same pad as in Photo #17.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #19

Date: 09-08-04 Time: 1003

Photographer: Larry Campbell

Description: Photo facing northwest showing laborer compacting asphalt concrete around catch basin pad using vibratory plate compactor.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #20

Date: 09-08-04 Time: 1006

Photographer: Larry Campbell

Description: Photo facing west showing paver placing E-W panel at top of initial upslope N-S panels.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #21

Date: 09-08-04 Time: 1018

Photographer: Larry Campbell

Description: Photo facing northwest showing various compactors rolling (compacting) asphalt concrete in southwester quadrant of SBPA final cover.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #22

Date: 09-08-04 Time: 1022

Photographer: Larry Campbell

Description: Photo facing northwest at paver placing asphalt around SVE79 concrete pad.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #23

Date: 09-08-04 Time: 1032

Photographer: Larry Campbell

Description: Photo facing southwest showing paver placing asphalt concrete around SVE71 concrete pad.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #24

Date: 09-08-04 Time: 1042

Photographer: Larry Campbell

Description: Photo facing west showing E-W panel on west end of SBPA. Temperature of AC as placed = 330°F.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 64 Photo #25
 Date: 09-08-04 Time: 1050
 Photographer: Larry Campbell
 Description: Photo facing west showing asphalt cement cover on southwest quadrant of SBPA.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 64 Photo #26
 Date: 09-08-04 Time: 1056
 Photographer: Larry Campbell
 Description: Photo facing northeast showing TransTech asphalt density gauge, Model 300, with asphalt core taken from test pad placed yesterday at airport.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 64 Photo #27

Date: 09-08-04 Time: 1107

Photographer: Larry Campbell

Description: Photo facing south showing paver placing
N-S upslope panel.



Site: American Chemical Service, Inc.

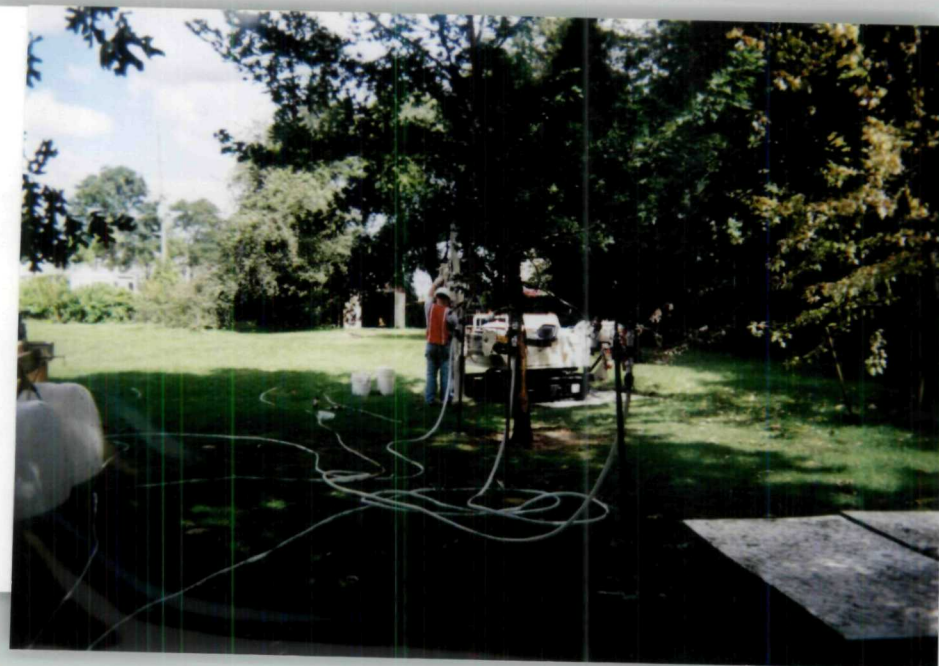
Proj. #: 46526

Roll: 65 Photo #1

Date: 09-08-04 Time: 1149

Photographer: Larry Campbell

Description: Photo facing northwest showing new poly
sulfuric acid tank placed in its secondary
containment in the GWTP.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #2

Date: 09-08-04 Time: 1152

Photographer: Larry Campbell

Description: Photo facing east showing SBPA final cover asphalt concrete cover placed so far today.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #3

Date: 09-08-04 Time: 1211

Photographer: Larry Campbell

Description: Photo facing north showing PSA installing new injection points at 1002 Reder Road and ISOTEC injecting three points simultaneously.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 65 Photo #4
 Date: 09-08-04 Time: 1222
 Photographer: Larry Campbell
 Description: Photo facing east showing W&K drilling
 additional core from test pad at airport.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 65 Photo #5
 Date: 09-08-04 Time: 1231
 Photographer: Larry Campbell
 Description: Photo facing north showing W&K
 attempting to remove core from bit. Difficult
 to remove because of high asphalt content
 of mix.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #6

Date: 09-09-04 Time: 0845

Photographer: Larry Campbell

Description: Photo facing east showing paving completed yesterday. Truck on asphalt concrete is spraying asphalt tack coat to make "cold" joint.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #7

Date: 09-09-04 Time: 0846

Photographer: Larry Campbell

Description: Photo facing east showing paving operations on the north side of SBPA cover. Note placement of upslope N-S panels.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #8

Date: 09-09-04 Time: 0850

Photographer: Larry Campbell

Description: Photo facing north showing wood forms for new concrete pad for new knockout tank to be installed near Durr thermal oxidizer unit 1.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #9

Date: 09-09-04 Time: 0910

Photographer: Larry Campbell

Description: Photo facing west showing 2" thin lift (R) and milled edge (L) which will be used to make "cold" joint with today's paving. Note asphalt tack coat on milled edge.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #10

Date: 09-09-04 Time: 0914

Photographer: Larry Campbell

Description: Photo facing southeast showing paving near catch basin on north edge of SBPA

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #11

Date: 09-09-04 Time: 0919

Photographer: Larry Campbell

Description: Photo facing southwest showing roller near catch basin pad and paving along north edge of SBPA cover.



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Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #12

Date: 09-09-04 Time: 0946

Photographer: Larry Campbell

Description: Photo facing east showing spray truck spraying asphalt tack coat onto milled edge of "cold" joint..

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #13

Date: 09-09-04 Time: 1102

Photographer: Larry Campbell

Description: Photo facing north showing Ryan placing concrete in forms for new knockout tank foundation pad.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #14

Date: 09-09-04 Time: 1134

Photographer: Larry Campbell

Description: Photo facing west showing paving on west end of SBPA cover. Note tack coat of asphalt on left prior to placement of asphalt concrete to form "cold" joint.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #15

Date: 09-09-04 Time: 1315

Photographer: Larry Campbell

Description: Photo facing east showing completed asphalt panels in west end of SBPA cover. Linear feature is "cold" joint - today's paving on L, yesterday's on R.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #16

Date: 09-09-04 Time: 1320

Photographer: Larry Campbell

Description: Photo facing east showing initial N-S upslope panes in southeast quadrant of SBPA cover.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #17

Date: 09-09-04 Time: 1324

Photographer: Larry Campbell

Description: Photo facing northeast showing paver receiving load of asphalt concrete so truck can dump without hitting overhead pipes. Will place AC 50' behind paver's location.



Site: American Chemical Service, Inc.
Proj. #: 46526

Roll: 65 Photo #18

Date: 09-09-04 Time: 1328

Photographer: Larry Campbell

Description: Photo facing northwest showing paver placing starter upslope panel in southeast corner of SBPA cover. Note truck far forward ahead of overhead pipes.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #19

Date: 09-09-04 Time: 1338

Photographer: Larry Campbell

Description: Photo facing east showing paver placing E-W tie panel at top of the N-S upslope starter panels.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #20

Date: 09-09-04 Time: 1345

Photographer: Larry Campbell

Description: Photo facing north showing laborers manually placing asphalt concrete in small area between well pad and edge of cover.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #21

Date: 09-09-04 Time: 1354

Photographer: Larry Campbell

Description: Photo facing west showing paver placing asphalt concrete west of well pad at south edge of SBPA cover.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #22

Date: 09-13-04 Time: 0856

Photographer: Larry Campbell

Description: Photo facing southwest showing Ryan rigging new knockout tank to be lifted into place.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #23

Date: 09-13-04 Time: 0900

Photographer: Larry Campbell

Description: Photo facing southeast showing new heat exchanger for thermox 1, manufactured by Global.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #24

Date: 09-13-04 Time: 0913

Photographer: Larry Campbell

Description: Photo facing west showing knockout tank being lifted and positioned for lowering into position near thermox 1.



Site: American Chemical Service, Inc.

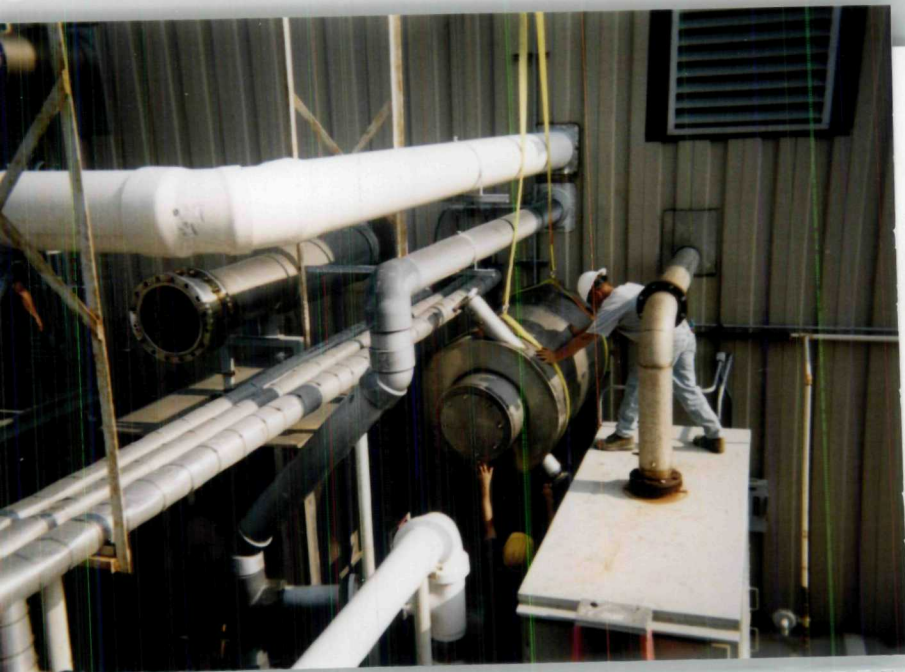
Proj. #: 46526

Roll: 65 Photo #25

Date: 09-13-04 Time: 0917

Photographer: Larry Campbell

Description: Photo facing northeast showing knockout tank being lowered into position without damaging overhead piping.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 65 Photo #26

Date: 09-13-04 Time: 0918

Photographer: Larry Campbell

Description: Photo facing north showing new knockout tank being lowered into position between thermox 1 (L) and catalytic oxidizer (R)



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #1

Date: 09-13-04 Time: 1040

Photographer: Larry Campbell

Description: Photo facing east showing north side of SBPA asphalt concrete cover paving.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #2

Date: 09-13-04 Time: 1041

Photographer: Larry Campbell

Description: Photo facing east showing south side of
SBPA final asphalt concrete cover.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #3

Date: 09-13-04 Time: 1117

Photographer: Larry Campbell

Description: Photo facing northwest showing access paths to
MW10 where large pile of wood chips had been.
See Roll 61, Photo 18 in Monthly Report 44 and
Roll 58, Photo 22 in Monthly Report 41 for
comparison.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #4
 Date: 09-13-04 Time: 1120
 Photographer: Larry Campbell
 Description: Photo facing north showing edge of wood chips on pathway. Note underlying black filter fabric.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #5
 Date: 09-13-04 Time: 1125
 Photographer: Larry Campbell
 Description: Photo facing northwest showing access path to MW33, 30 & 51 and branch path to other wells (on L).



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #6
 Date: 09-13-04 Time: 1130
 Photographer: Larry Campbell
 Description: Photo facing west showing east end of
 SBPA cover paving.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #7
 Date: 09-13-04 Time: 1145
 Photographer: Larry Campbell
 Description: Photo facing south showing ISOTEC tanks
 and pumps injecting west edge of yard and
 along Colfax Avenue.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #8

Date: 09-13-04 Time: 1146

Photographer: Larry Campbell

Description: Photo facing south showing PSA deconning rods after injecting chemox on east side of Colfax Avenue.

Site: American Chemical Service, Inc.

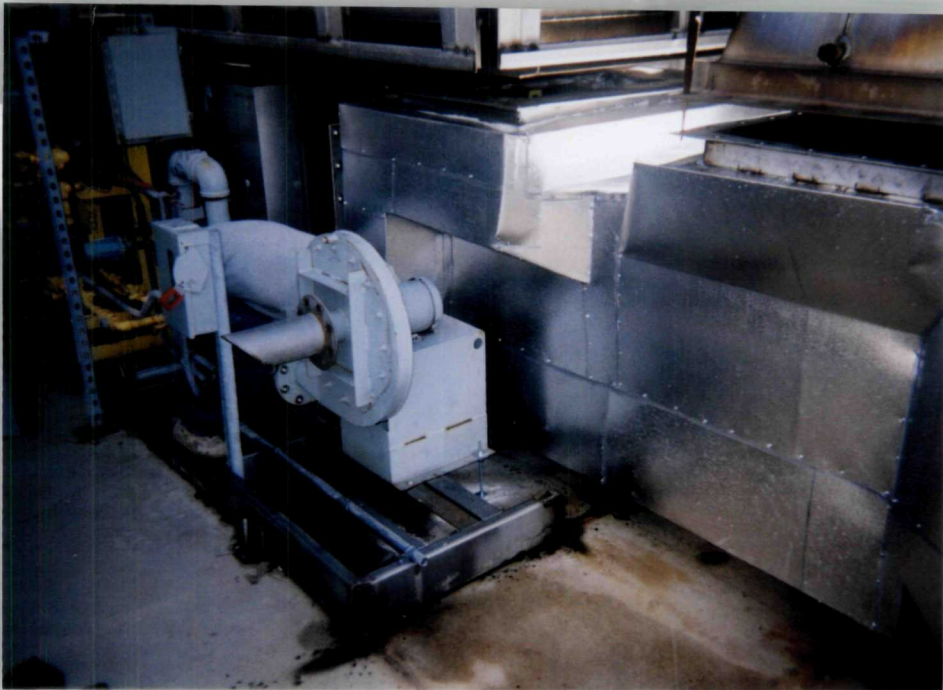
Proj. #: 46526

Roll: 66 Photo #9

Date: 09-16-04 Time: 0922

Photographer: Larry Campbell

Description: Photo facing north showing new knockout tank sitting in place at GWTP, but not connected.



Site: American Chemical Service, Inc.
 Proj. #: 46526

Roll: 66 Photo #10
 Date: 09-16-04 Time: 0923

Photographer: Larry Campbell

Description: Photo facing north showing Ryan connecting new heat exchanger to thermox 1. Steel beams have been removed to accommodate new heat exchanger with legs.

Site: American Chemical Service, Inc.

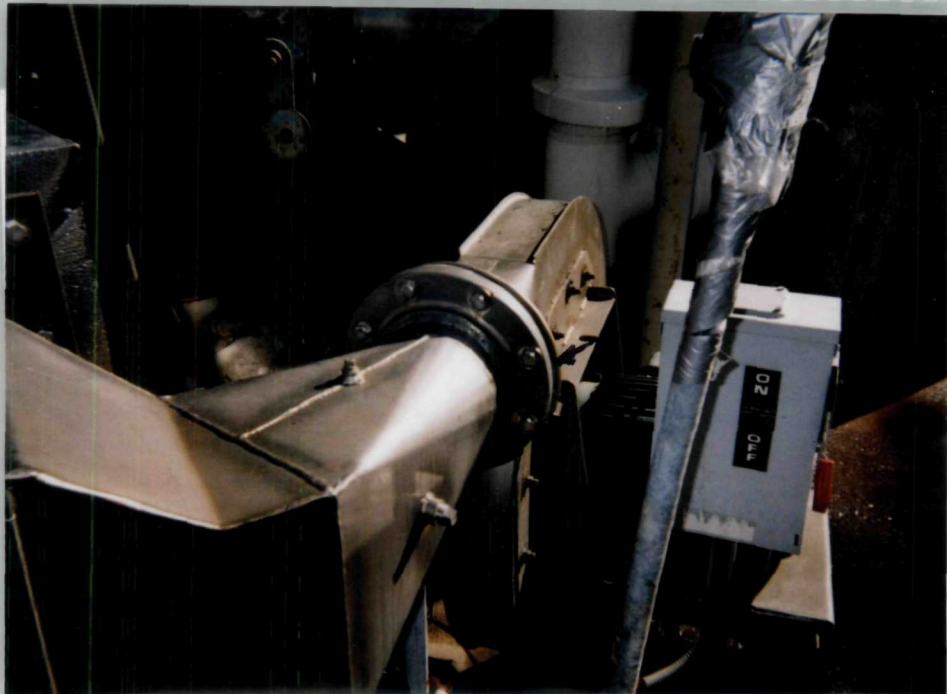
Proj. #: 46526

Roll: 66 Photo #11

Date: 09-16-04 Time: 0924

Photographer: Larry Campbell

Description: Photo facing east showing 3" gaps between new heat exchanger and existing thermox 1 vapor piping.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #12

Date: 09-16-04 Time: 0928

Photographer: Larry Campbell

Description: Photo facing northeast showing misalignment of new heat exchanger (L) and existing blower connection (R).

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #13

Date: 09-16-04 Time: 0933

Photographer: Larry Campbell

Description: Photo facing south showing corroded packing from Global thermox 2.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #14

Date: 09-16-04 Time: 0933

Photographer: Larry Campbell

Description: Photo facing south showing "clean" non-corroded packing from thermox 2.



Site: American Chemical Service, Inc.

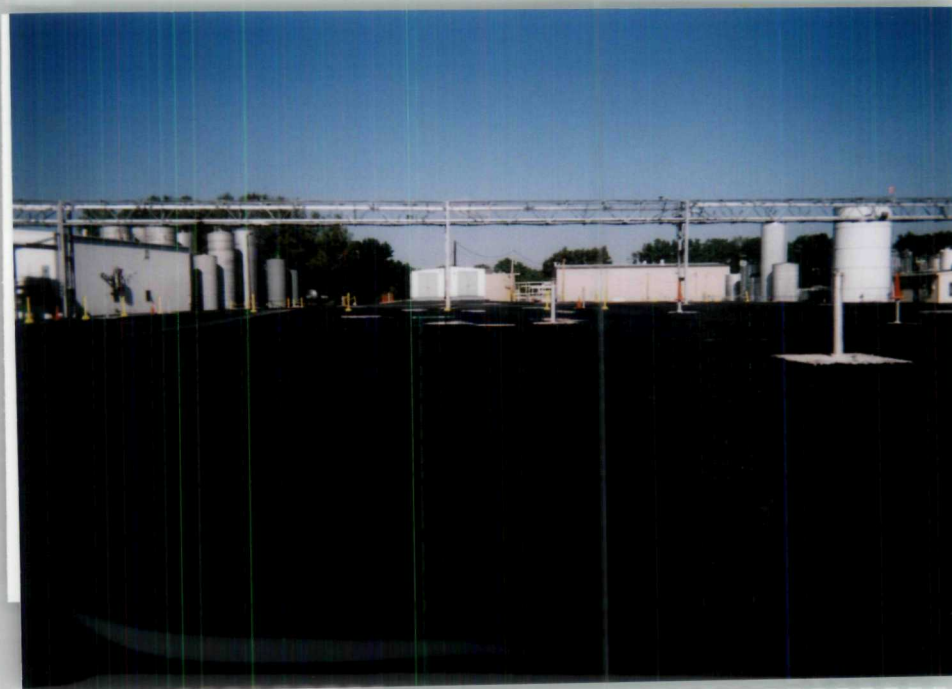
Proj. #: 46526

Roll: 66 Photo #15

Date: 09-16-04 Time: 0934

Photographer: Larry Campbell

Description: Photo facing upward showing Austgen removing packing from thermox 2 using an air hammer.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #16

Date: 09-16-04 Time: 0945

Photographer: Larry Campbell

Description: Photo facing south showing "roadway"
across SBPA cover.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #17

Date: 09-16-04 Time: 0947

Photographer: Larry Campbell

Description: Photo facing west showing completed
SBPA asphalt concrete cover. Note small
"birdbaths" of ponded water on the surface.



Site: American Chemical Service, Inc.

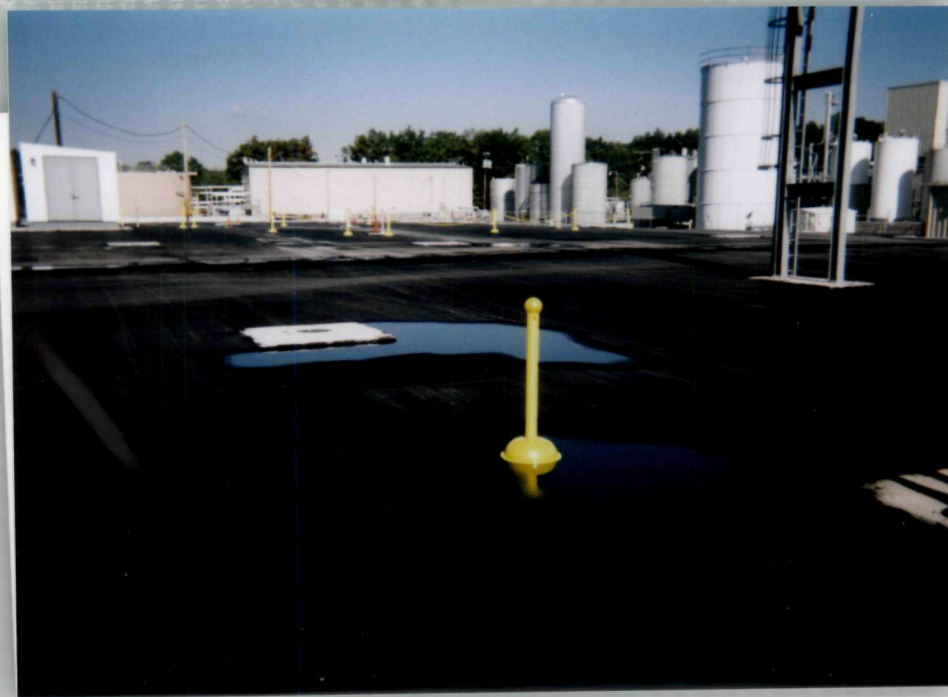
Proj. #: 46526

Roll: 65 Photo #18

Date: 09-16-04 Time: 0950

Photographer: Larry Campbell

Description: Photo facing west showing location of cores taken of completed asphalt concrete cover. Core holes have been filled with asphalt.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #19

Date: 09-16-04 Time: 0951

Photographer: Larry Campbell

Description: Photo facing west showing small "birdbaths" of ponded water near AS4.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #20

Date: 09-16-04 Time: 0953

Photographer: Larry Campbell

Description: Photo facing southeast showing location of E-W and N-S cold joints in asphalt concrete cover.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #21

Date: 09-16-04 Time: 0954

Photographer: Larry Campbell

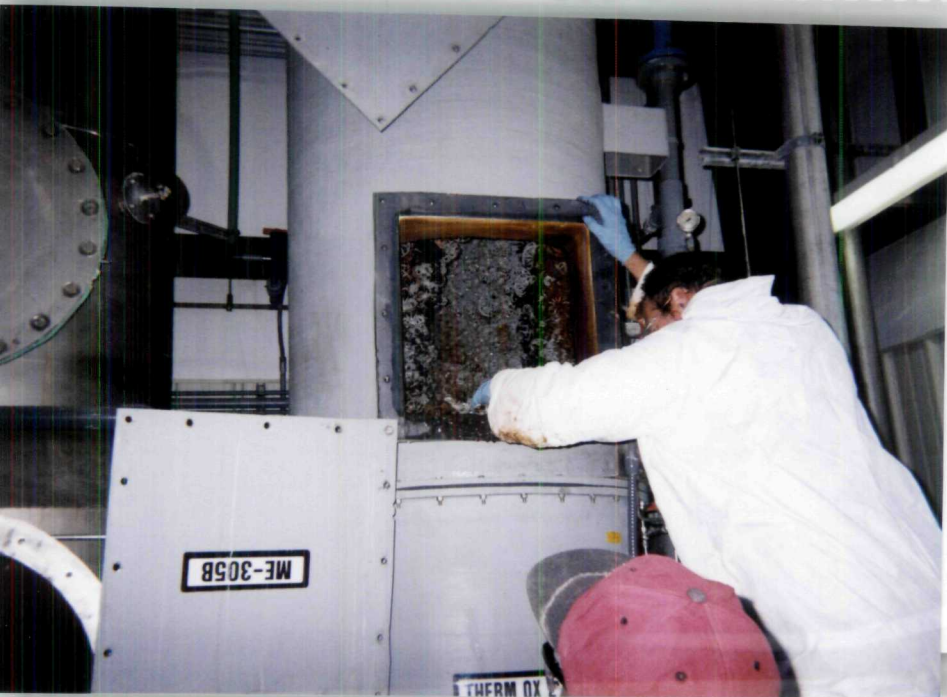
Description: Photo facing west showing central storm drain on south side of SBPA. Note ponded water off of the cover (on L).



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #22
 Date: 09-16-04 Time: 1120
 Photographer: Larry Campbell
 Description: Photo facing south showing row of chemox
 injection points on north side of Reder Rd.

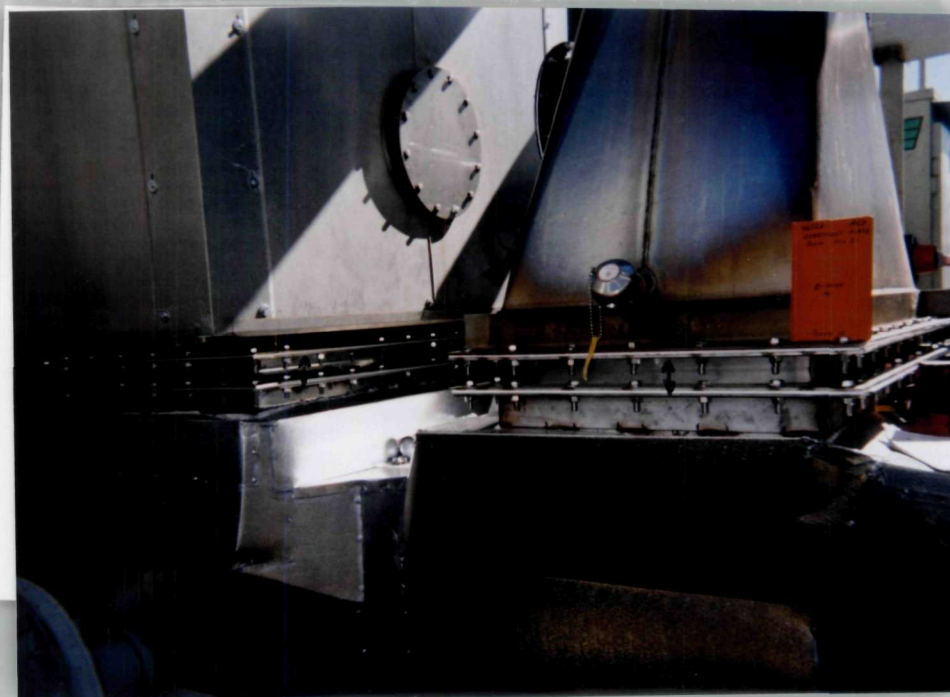


Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #23
 Date: 09-16-04 Time: 1125
 Photographer: Larry Campbell
 Description: Photo facing north into OFCA auxiliary
 blower shed showing Austgen pulling wires
 through conduit.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #24
 Date: 09-16-04 Time: 1150
 Photographer: Larry Campbell
 Description: Photo facing south at Austgen removing
 packing material from thermox 2

Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 66 Photo #25
 Date: 09-16-04 Time: 1200
 Photographer: Larry Campbell
 Description: Photo facing east showing SBPA asphalt
 concrete cover. Note yellow chain and
 stanchion fencing to protect ISVE wells.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 66 Photo #26

Date: 09-21-04 Time: 0954

Photographer: Larry Campbell

Description: Photo facing south showing GWTP after removal of temporary acid storage tanks and their secondary containments. Note rust-colored acid stain near floor drain.

Site: American Chemical Service, Inc.

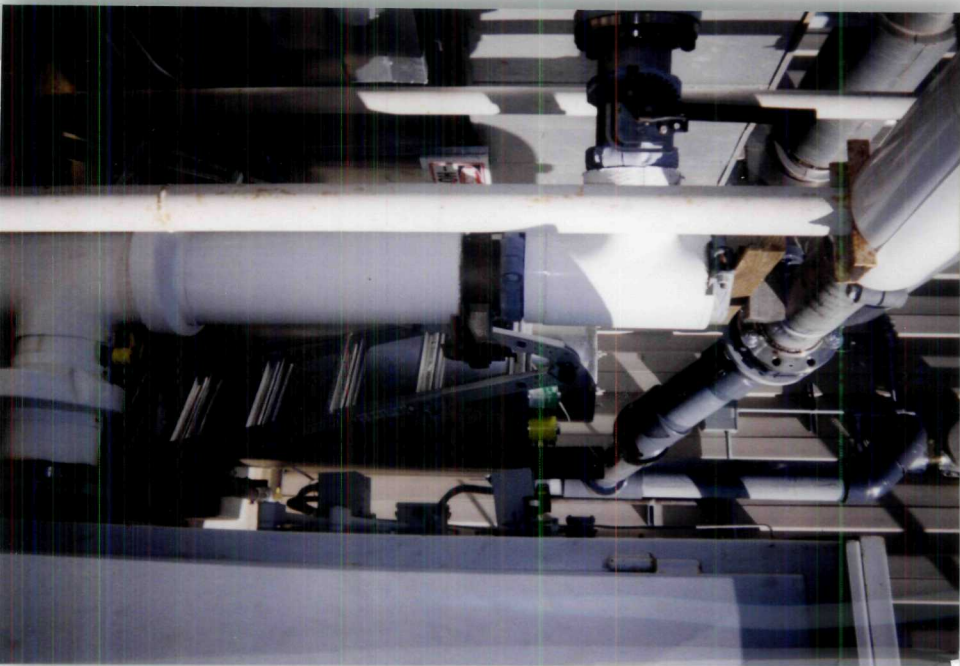
Proj. #: 46526

Roll: 66 Photo #27

Date: 09-21-04 Time: 1020

Photographer: Larry Campbell

Description: Photo facing east at thermox 1 heat exchanger showing sleeves to fill 3" gap in connections between heat exchanger and vapor piping.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #1

Date: 09-21-04 Time: 1025

Photographer: Larry Campbell

Description: Photo facing north showing Ryan installing piping for the new knockout tank between thermox 1 (L) and chemox (R).

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #2

Date: 09-21-04 Time: 1038

Photographer: Larry Campbell

Description: Photo facing northeast showing MWH personnel leaving MW23 after sampling that well. Note new wood chip pathway to well.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 67 Photo #3
 Date: 09-21-04 Time: 112
 Photographer: Larry Campbell
 Description: Photo facing north showing ISOTEC tanks
 and pumps in the yard at 1002 Reder Road.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 67 Photo #4
 Date: 09-21-04 Time: 1113
 Photographer: Larry Campbell
 Description: Photo facing north showing last three
 injection points in the yard.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #5

Date: 09-21-04 Time: 1123

Photographer: Larry Campbell

Description: Photo facing east showing ISOTEC purging sampling point midway between two injection points

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #6

Date: 09-21-04 Time: 1124

Photographer: Larry Campbell

Description: Photo facing east showing ISOTEC collecting groundwater sample from intermediate sampling point to test for peroxide in groundwater.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #7

Date: 09-21-04 Time: 1127

Photographer: Larry Campbell

Description: Photo facing southwest showing ISOTEC field filtering groundwater sample. Then added ammonium molybdate and sulfite 1 reagent. Color changed to dark blue.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #8

Date: 09-21-04 Time: 1128

Photographer: Larry Campbell

Description: Photo facing southwest showing ISOTEC transferring solution to flask. Test indicated 5 ppm peroxide (up from 0.6 ppm prior to injecting). Will test again after completed.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 67 Photo #9
 Date: 09-21-04 Time: 1149
 Photographer: Larry Campbell
 Description: Photo facing west showing PSA removing
 probe rod after injections were completed.

Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 67 Photo #10
 Date: 09-21-04 Time: 1325
 Photographer: Larry Campbell
 Description: Photo facing west showing MWH personnel
 removing peristaltic pump from MW32 near
 railroad tracks at north end of site.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #11

Date: 09-21-04 Time: 1351

Photographer: Larry Campbell

Description: Photo facing east showing MWH purging
MW31 and collecting sampling parameters.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #12

Date: 09-21-04 Time: 1411

Photographer: Larry Campbell

Description: Photo facing east showing new ONCA
SBPA fence stanchions (yellow).



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 67 Photo #13
 Date: 09-21-04 Time: 1412
 Photographer: Larry Campbell
 Description: Photo facing north showing orange cones
 used to identify "roadway" across SBPA
 cover.



Site: American Chemical Service, Inc.
 Proj. #: 46526
 Roll: 67 Photo #14
 Date: 09-21-04 Time: 1420
 Photographer: Larry Campbell
 Description: Photo facing north showing PSA rig and
 two injection points on west side of Colfax
 Ave.



Site: American Chemical Service, Inc.

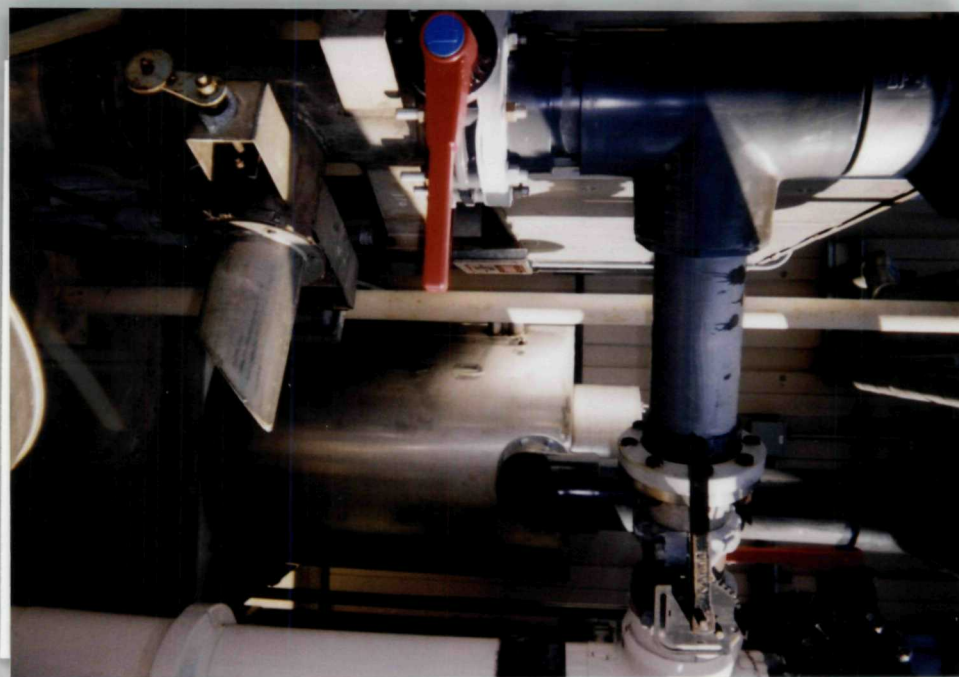
Proj. #: 46526

Roll: 67 Photo #15

Date: 09-21-04 Time: 1430

Photographer: Larry Campbell

Description: Photo facing northeast showing puddle of city water spilled from filling of ISOTEC tanks. Tested by Griffith fire department in response to public concern. Was water.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #16

Date: 09-23-04 Time: 0925

Photographer: Larry Campbell

Description: Photo facing north showing fully installed knockout tank at GWTP near thermox 1.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #17

Date: 09-23-04 Time: 0926

Photographer: Larry Campbell

Description: Photo facing north showing fully installed and connected heat exchanger on thermox 1.

Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #18

Date: 09-23-04 Time: 0943

Photographer: Larry Campbell

Description: Photo facing south showing PSA pulling injection rod on west side of Colfax Ave. Also, ISOTEC injecting into other points.



Site: American Chemical Service, Inc.

Proj. #: 46526

Roll: 67 Photo #19

Date: 09-23-04 Time: 1118

Photographer: Larry Campbell

Description: Photo facing northeast showing EPA, IDEM, MWH, Environ, and ACS personnel inspecting ONCA SBPA final asphalt concrete cover.